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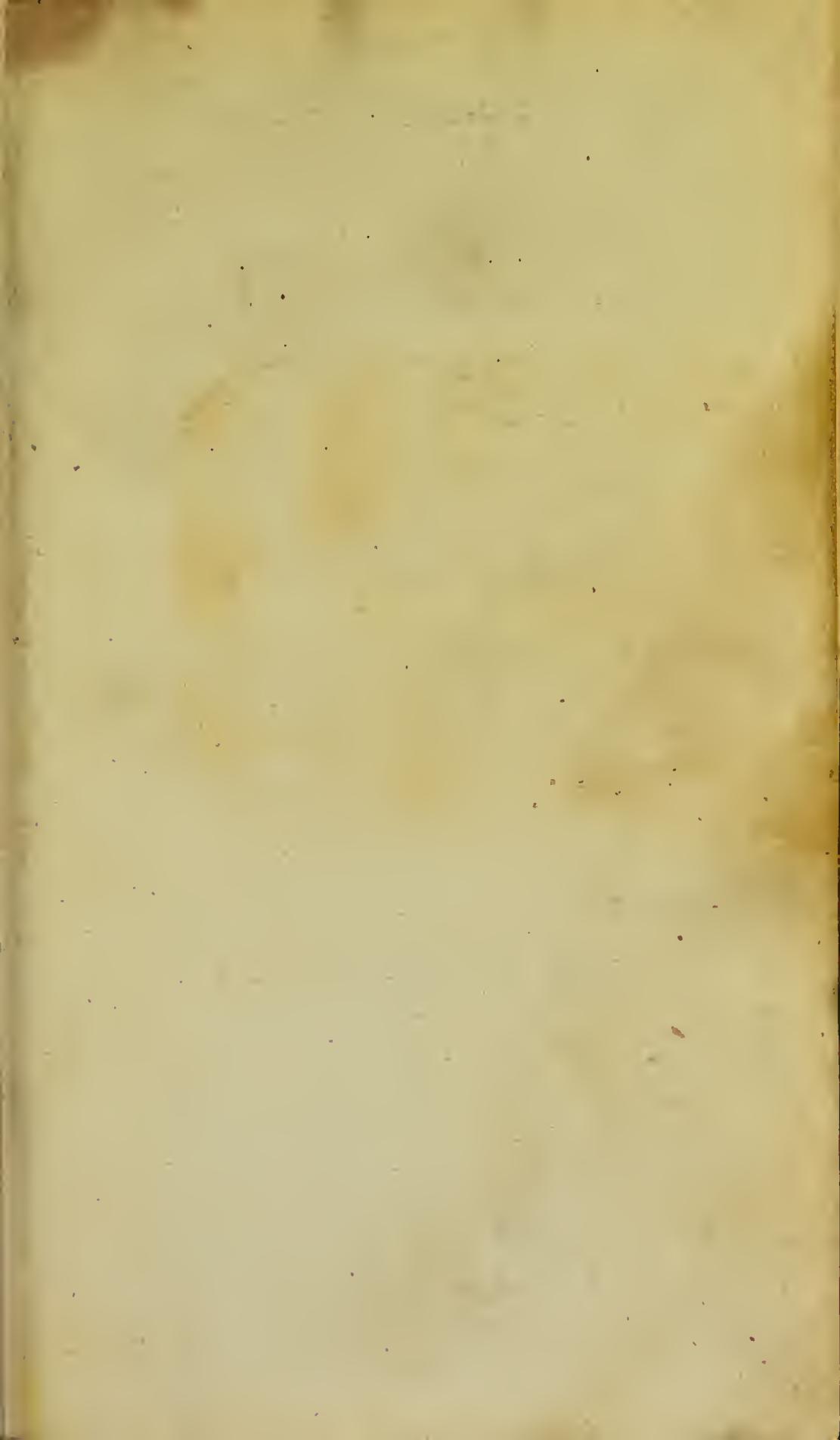
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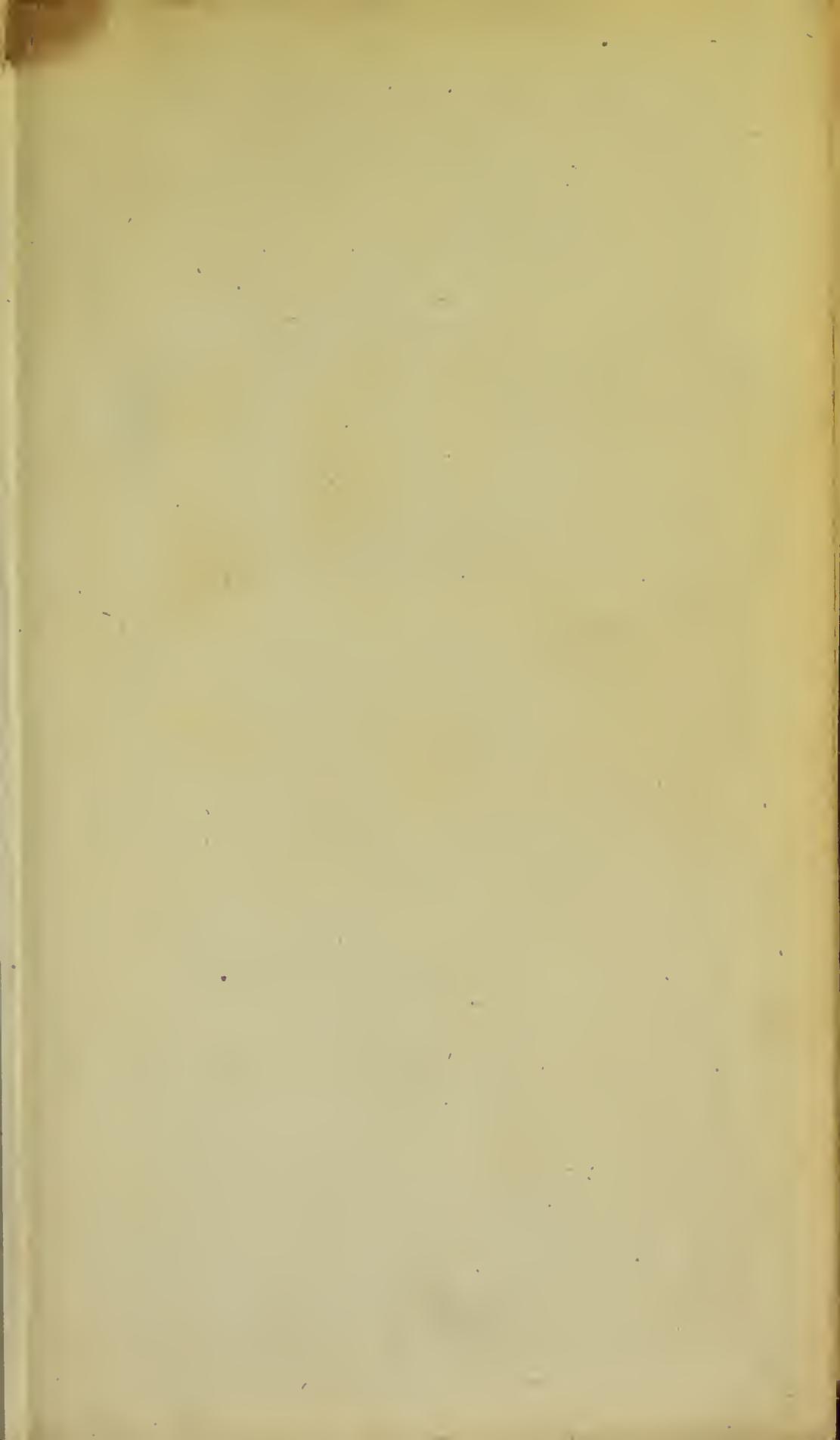
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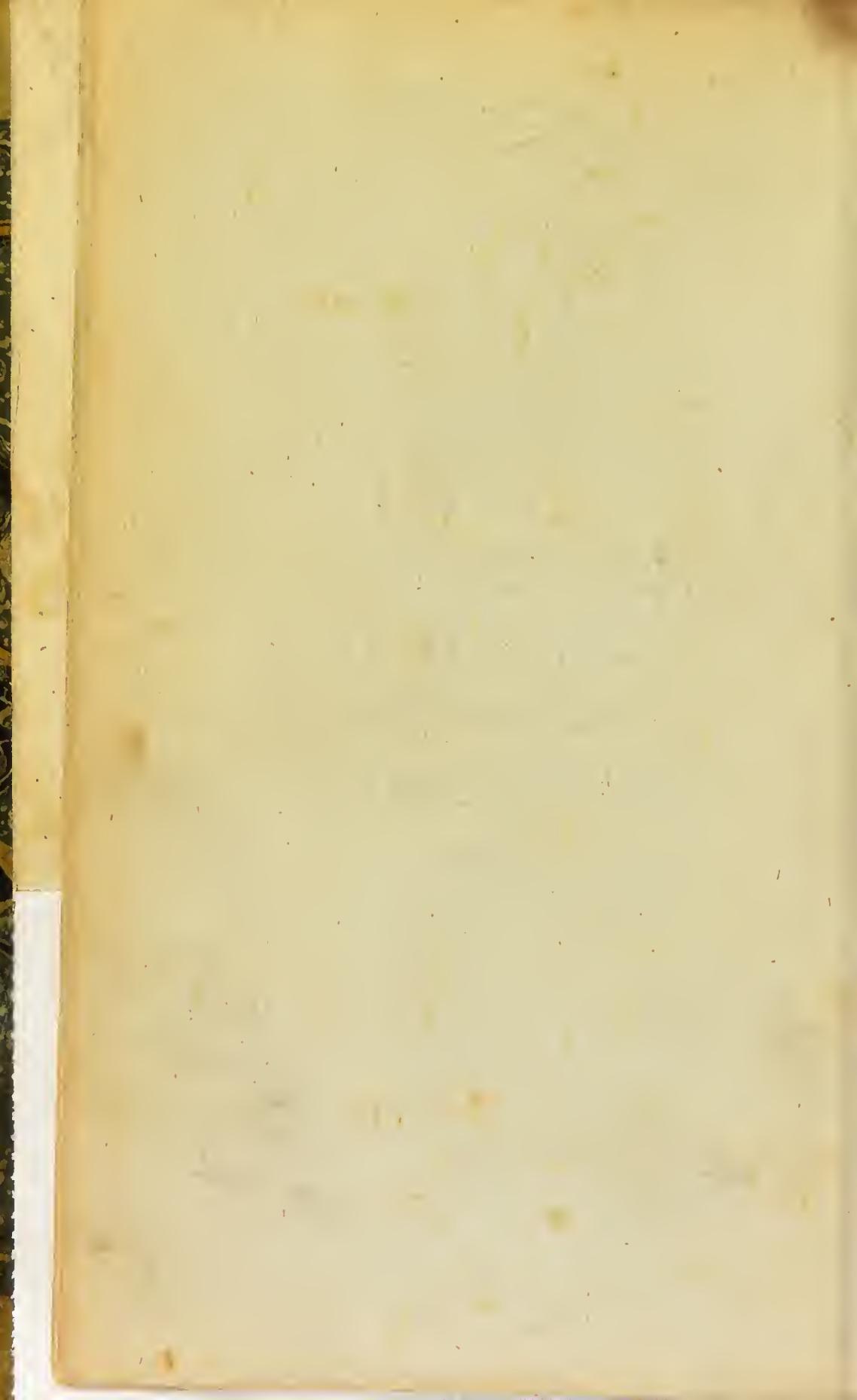
ON

F E M A L E, N E R V O U S

D I S E A S E S,

M A D N E S S, S U I C I D E,

&c. &c.



A
T R E A T I S E
ON
FEMALE, NERVOUS, HYSTERICAL,
HYPOCHONDRIACAL, BILIOUS,
CONVULSIVE
DISEASES;
APOPLEXY AND PALSY;
WITH THOUGHTS ON
MADNESS, SUICIDE, &c.
IN WHICH THE PRINCIPAL DISORDERS ARE
EXPLAINED FROM ANATOMICAL FACTS,
AND THE TREATMENT FORMED ON
SEVERAL NEW PRINCIPLES.

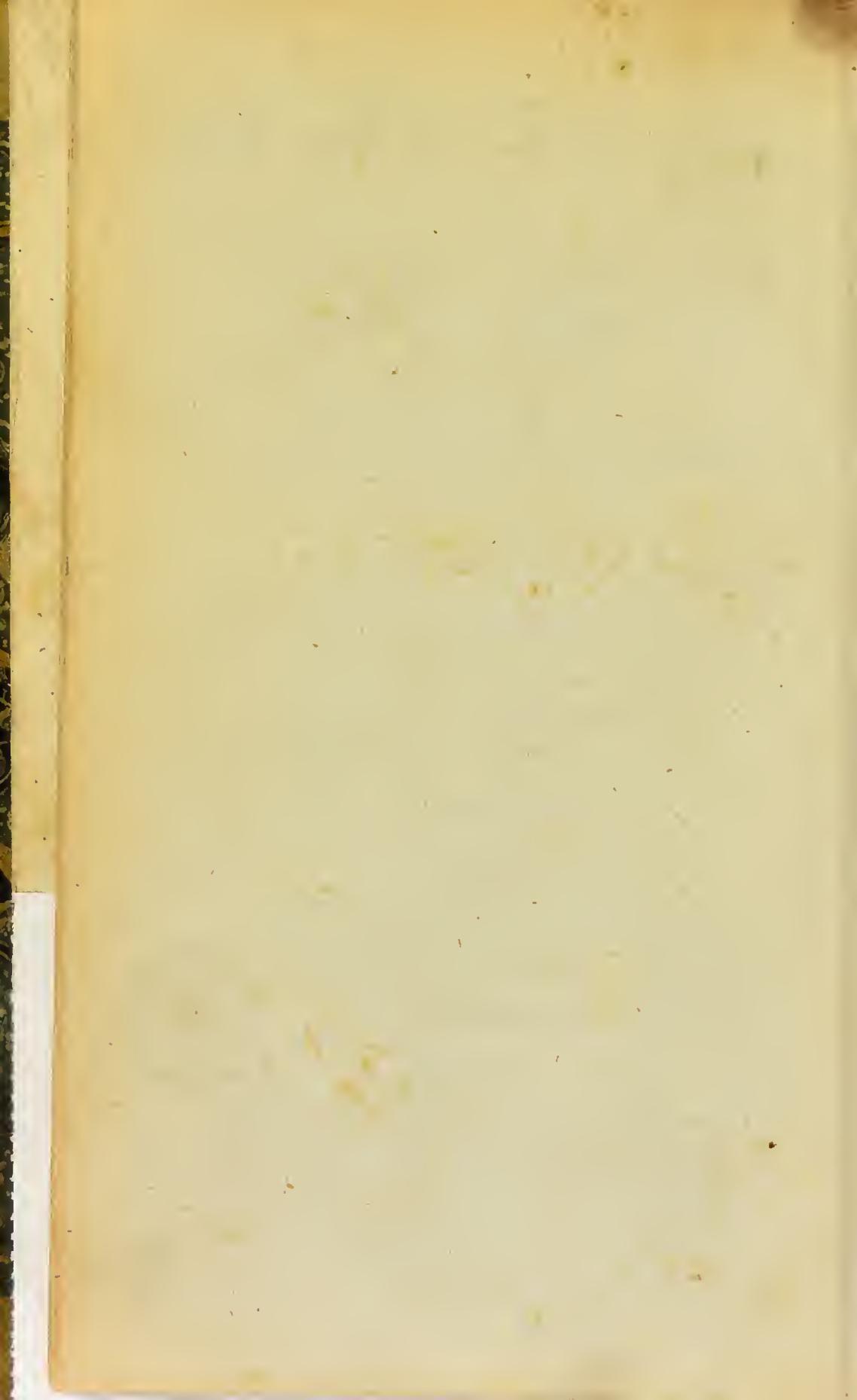
BY
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I N T R O D U C T I O N.

THE following work contains an attempt to improve the treatment of female and nervous diseases, and to explain several new principles of cure.

In each disorder, anatomical demonstrations are produced, to elucidate the true causes, and the rationality of the practice of cure proposed. As such disquisitions are only intended for the medical faculty, it was thought most eligible to deliver them in Latin.

Pathological dissections shew the effects of diseases ; but a previous knowledge of the animal, vital, and natural functions,

tions, during life, explain, by inductive reasoning, the various impediments arising from morbid affections.

As a large *Conspicetus* of the work is subjoined, in the form of contents, a long explanatory introduction is not requisite.

The doctrines advanced are the collective result of long experience, and abundance of practice in all the branches of medicine. The healing art, to be extensively useful, should neither be confined to any narrow system, sect, nor particular department.

In most parts of this treatise, new sentiments are delivered with openness and freedom. What is offered, is respectfully submitted to the learned, experienced, and candid, in the profession : their probation may confirm what is rational ; their judicious objections to whatever may
be

be thought defective, either in theory or practice, will be considered worthy of attention.

The performance originally extended only to female diseases; but the hysterical are so nearly allied to many others of the nervous class, that it was determined to comprehend the whole in this volume, with their numerous symptoms.

The *Formulæ medicamentorum* are not intended to confine the medical profession to the specimens introduced; for medicine, if not empirical, must continually vary according to constitutions, mental disposition, age, sexes, climates, seasons, stages of the disease, &c. This doctrine is seriously recommended. The treatment of the irritable, florid, pallid, robust, or debilitated, &c. is considered, with the necessity of continually varying the modes of cure. An exquisite discrimination in these particulars, I have ever considered the subli-

mest

most skill in the art of medicine. The prescriptions therefore are only produced as general outlines for practice, which may be altered agreeably to indications, contra-indications, &c., in every individual patient. The judicious application of medical precepts, however ingenious, must be submitted to the discernment of the experienced prescriber.

That the performance may be useful to the afflicted, is the earnest wish of

THE AUTHOR.

SAVILLE ROW,

SEPT. 20, 1788.

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A

T R E A T I S E
ON
FEMALE, NERVOUS DISEASES,
MADNESS, SUICIDE,
&c. &c.

*General Method of preventing FEMALE
DISEASES, &c.*

THE delicate structure of the female body; the peculiar sensibility of the nervous system; the absence, presence, diminution, increase, or obstruction of the catamenia; the state of the uterus, and the singularities of each individual constitution, all require the most serious attention of the physician, who would treat the disorders of females with integrity and success.

B

The

A TREATISE ON

The due regulation of the catamenia is of the utmost importance: but it should not be determined on from the greater or less quantity of the discharge, but what the constitution has been accustomed to; this varies more or less in every female.

Persons of superior rank, who use little exercise, and are of a relaxed habit, have often this evacuation in greater abundance than those of an inferior station; yet this may answer the most salutary purposes in both conditions.

The constitution, in general, regulates the catamenia without requiring any assistance from art: therefore, physicians and the female sex should be very cautious how they counteract this uterine excretion by improper and ill-timed remedies; for irreparable mischief has been the consequence *.

An increase or diminution of the menstrual evacuation may happen from various causes;

* Hunc sanguinem ex ipsius uteri vasis deponi demonstravit autopsia in foeminae, eo fluente extintis; in vivis mulieribus, quibus uterus inversus sanguinem ex ostio interno destillavit; in aliis, quibus cum menses deficerent, uterus sanguine congesto plenus fuit, natura uteri vasis plenissima mollis spongiosa, comparata cum tenui, minima flocculenta, callosa vagina.—Nihil tamen intercedit quin utero impedito sanguis per vaginam deponatur, ut alias per ultimum intestinum & per remotissimas deum corporis partes deponitur.—Hallerus.

as changes of air, diet, and exercises; violent affections of the mind, as anger, grief, fear; retentions of natural and diurnal excretions, as the feces, urine, and perspiration, without any injury to the constitution: these changes, or any little slight symptoms arising from them, should not be considered or treated as diseases.

In healthful constitutions, besides the purposes of propagating the human species, the womb expels whatever is noxious or redundant; and prevents or cures, by this means, many female complaints *.

The diet of females should be regulated according to the individual constitution: but during the flowing of the catamenia, all *acids*, *flatulent*, *cold*, *milky*, *viscid*, and *gross diet* should be avoided; as likewise *cold bathing*, *sudden cold*, *vegetable*, and all bracing or *astringent* medicines, *purges*, or *vomits*.

If the discharge should be accompanied with much pain, arising from the resistance of the *os internum*, or from little coagulated masses formed in the uterus, which it endeavours to expel by repeated and painful contractions †,

* Καλαμηνίων γινομένων πλειόνων νέστοι ξυρβάνεται. Hippoc.

† These pains are frequently mistaken for colics, both by medical practitioners and females, and very improperly treated. The pains are situated under the pubis, between the bladder and rectum, &c.

warm cloths may be repeatedly applied to the lower part of the abdomen, or a bladder filled with hot water, which will retain its heat a considerable time; and warm, comfortable drinks may be used in moderation; if these do not succeed, an emollient carminative clyster may be prescribed*.

These pains are immediately removed by opiates; but the greatest skill and circumspection are required in their administration; for they sometimes produce *delirium*, *convulsions*, *headachs*, *obstruction*, and a train of other disagreeable symptoms, not only in this, but in other feminine complaints; and, their effects are commonly equal to the proportion of nervous sensibility the constitution possesses.

In the intermediate time, from one monthly discharge to another, the accustomed way of life, and that which has been experienced to agree, should be continued, if not productive of indisposition, and this will be best determined by every one's natural feelings. Air, exercise, regular diet, and amusements, are more conducive to health, than confinement, indolence, a minute attention to trifling changes, and a constant application to the art of medicine.

From natural constitution, and often from

* Of caraway, anniseeds, and chamomile flowers boiled, and a cup of sweet oil. Myrrh and aloetics are useful.

errors in living, arise a plethora or fulness in some women, and an extreme relaxation in others: both require a different treatment.

To remove fulness, joined with too much floridity, a more abstemious diet may be pursued once or twice in the week, avoiding suppers, or large draughts of different liquids.

To invigorate the relaxed and pallid, light nutritious meats, with a glass of wine, avoiding all teas, lemonade, small beer, or any weak drinks, as much as possible. By regulating exactly the quantity of liquids taken into the stomach, so as never to exceed the solid food: but, as each individual may require a particular treatment, to direct this, is the province of medicine.

Costiveness is a common female complaint, and productive of many evils: in those of a plethoric habit, and florid complexion, *magnesia*, *sal polychrestum*, *sena*, stewed prunes, manna; and to robust habits, even Rochelle salts may occasionally be repeated, if a more free use of boiled vegetables should not answer.

To the relaxed, thin, and pale, *aloetics* joined with *soap*, a few grains of *Rufus's pill*, or such-like remedies, will be proper; but no preparation, perhaps, is better, than about from two to eight grains of the *pilula ex colocynth. cum aloë.*

aloe. twice or thrice in the week ; it commonly removes most pains in the stomach, and acts very gently if well prepared.

A grain of the *pulv. gambog.*, or half a grain of calomel, as an excellent deobstruent, may be added in some cases.

Such are the general means by which good health may be preserved, and many grievous diseases prevented.

Of the CHLOROSIS, or GREEN SICKNESS.

A partial or total obstruction in the uterine vessels of young females, under or about the age of puberty, attended with great paleness, or a fallow green colour of the face and skin, and a disinclination to move, is called the chlorosis, or green sickness*.

To the above appearances the following symptoms may be added ; paleness of lips ; great lassitude ; coldness of the feet ; loss of appetite, or a desire for absurd things ; nausea and vomiting ; disturbed sleep ; a languid pulse ; yellow, turbid, or aqueous urine ; a

* Hipp.; Iliscis Avicennæ; febris alba & virginum obstrunctiones Mercati; Cachexia Pläteri, de discoloratione. Morbus virginus & febris alba Rod. a Castro. Fœdi colores Ballonii. Febris amatofia Langii. Icteritia alba Etmulleri. The multiplication of names for one and the same thing may be numbered amongst modern absurdities.

difficulty of breathing; swellings of the feet, and other parts; palpitation of the heart; pains of the head; faintings, and a great dejection of the mind.

The immediate causes of the chlorosis seem to be, a depraved state of the fluids, from a repeated accumulation of what should have been discharged by the uterine vessels; a diminished sensibility of the nervous system, and a loss of vigor in the solids. Instead of a proper proportion of the red particles in the blood, serum or lymph predominate; the fine feelings are blunted, and the soul and body appear in a state of torpidity, and every little exertion of the muscular powers produces fatigue.

The other causes are, a humid and cold air; a natural lax, spongyous and phlegmatic habit; a sedentary life; affections of the mind; improper diet; a bad digestion: but, above all, the admission of a depraved and ill-prepared chyle through the lacteal vessels *.

When the disease has been some time confirmed, the mind and body become the reciprocal causes of its increase and continuance: the languid state of mind is daily more debilitated by the sluggish circulation of cold un-

* Vitium primæ coctionis, quæ fit in primis viis, non facile corrigitur in secunda, quæ in visceribus sanguificationi & depuratione inservientibus peragitur, minus in tertia quæ actu nutritionis absolvitur.

healthy fluids; and this feeble circulation appears to deaden the nervous sensations, and deprive the soul and active nervous powers of those exertions which might expel the formidable enemy. The effects may be seen but rarely; but a few examinations after death shew sufficiently the consequences of the disease *.

The cure consists in correcting the vitiated fluids; and removing glandular, or other obstruction.

Removing the torpidity of the nervous system; and

Invigorating the solids.

I. These ends may be produced by neutral

* *Chlorosis.*

Anatomical Examinations after Death.

<i>Sympotoma.</i>	<i>Extispicia.</i>
<i>Chlorosis cum spirandi difficultate & convulsionibus succedentibus.</i>	Lympha in thorace & pulmones pure exsufficiens.
<i>Cordis palpitationibus stipatur & syncopem lethalem accedit.</i>	Cor sanguine concreto turgens, valvulae deformes & quasi ossae.
<i>Chlorotica subito extinguitur.</i>	Ovarium sinistrum ingens.
<i>Chlorotica difficile spirat & convulsionibus aggreditur.</i>	Pulmones putridi.
<i>Chlorotica centum & amplius venae sectiones intra annum passa syncope de medio tollitur.</i>	Cerebrum & vasa sanguifera sanguine vacua. Ventriculus contractus.

salts,

falts, aloetics, mercurials, and antimonials, given as evacuants and alteratives.

2. By air, exercise, warm medicated baths, diverting the mind, riding on horseback:

3. By chalybeates, bark, Spa, Pyrmont, Bath, similar waters, and an attention to proper diet.

The disorder, however, being slow in its advances, and seldom attended with immediate danger, the attempts to cure should be conducted gradually: but the disease is not to be left to nature; the assistance of art is to second her efforts, and in most cases is absolutely necessary.

The depraved humours may be evacuated, and glandular obstruction removed, by aloetics and calomel ad gr. ss. vel j., once, twice, or thrice in the week; and the blood may be accelerated and changed by an electuary of *limatur. mart. spec. aromat. and conf. rosar. ter de die.*

Manna and *cremor tartari*, *rhubarb*, *jalap*, and *nitre*. The application of any of the above remedies, according to the circumstances of cases and constitutions of patients, must be left to the skill of the prescriber.

To the *plethoric*, the saline preparations dissolved and united with *aloetics* may be proper.

To the pale, languid, and hysterical, the *aloetics* alone, or joined with the *fætid gums*, and in all obstinate cases, the *mercurials*, as

merc. *dulc.* *sex subl.* *ad. gr. ss*; at proper distances may be administered conjointly with aloetices, or bitter laxatives.

In the intermediate days may be given *horis duebus ante prandium quotidie*, with or without *chalybeates*; as light correctors of the stomach.

Elix. aloës.

— myrrh. c.

Tinct. sacra. ad 3j vel 3ss.

— Rhei ad 3j. in quorum vehiculo appropriato.

Pil. gummos. ad gr. v. cum

— Rufi ad gr. iij.

Extract, cathart. ad gr. iij.

— Rhabarb. cum gentian.

— — — — — fabin.

Gum ammoniac.

— galban.

— myrrh ad gr. v.

As gentle alteratives,

Cinnabar factitium.

Æthiops mineralis.

Pulv. merc. dulc. lot. cum sulph. aurat. ant. ad gr. j. ter de die in a pill.

To restore and invigorate the solids and quicken the circulation,

Rubigo ferri ad 3j.

Flores martiales ad 3j. cum infus amar. ter de die.

Elix. vitriol. dulc. ad 3j.

— acid. ad gtt. xv. cum decocto cort. Peruv.
vel infuso amaro.

Lixivium martis ad gtt. xx.

Vinum chalybeatum ad 3ij.

— amarum.

Pulv. cortex Peruv. ad 3ss ex cyatho lactis vaccini bis vel ter de die.

But what has been found, after above twenty years experience, and in some thousands of female and other cases, an excellent corrector of the most depraved state of the fluids, is our pulvis mineralis purificans, which is prepared in the following manner :

Pulvis mineralis purificans fortior.

R. Flor. sulph. pulv. sal. nitr. argent. viv. aa ℥vj. terantur simul in mortario vitro vel lapideo donec perfectissima unitas facta sit.

Pulvis mineralis purificans mitior.

R. Flor. sulph. argent. viv. aa ℥ss. pulv. sal. nitr. puriss. ℥vj. misce ut supra.

The aloetic and calomel pill should be prescribed at the same time.

Cause-removing remedies for the first intention.

Formulae remediorum.

No. 1. R. Tart. emet. gr. $\frac{1}{2}$ ad gr. ss.

Aq. com. 3ijs.

Magnes. alb. gr. x. M. f. haustus bis vel ter in septimana sumendus.

No. 2. R. Calomel gr. $\frac{1}{2}$ ad gr. ss. vel gr. j.

Pil. rufi gr. iij. M. accuratissime f. pilula semel pjs vel per in septimana sumenda.

No. 3. Rx. Pil. gummos.

— ex. colocynth. cum aloë aa 3j.

M: f. pilulae No. xxiv. capiat unam mane & nocte superbibendo 3ij. aquæ vel infusi pulegii cum 3j. tinct. flor. mart.

After the foregoing evacuants the following remedies are proper.

No. 4. Rx. Tinct. melampod. 3j. capiat. coch. parvul (tca spoonful) ex infus. fol. puleg. mane horâ undecima quotidie : vel,

No. 5. Rx. Elix. aloës 3vj.

Tinct. aromat. 3ij. M. capiat gtt. LX bis vel ter de die ex cyatho aquæ parvo : vel,

No. 6. Rx. Vin. Chalybeat. 3iss.

Tinct. sacr. 3iss. M. capiat 3ij. ter de die ex cyatho infus. flor. chamæmel.

No. 7. Rx. Elix. aloës 3iss.

Lixiv. mart. 3iss M. capiat gtt. xxx vel LX bis de die ut supra.

No. 8. Rx. Elix. myrhh. comp. 3iss.

Aloës 3iss M. capiat. gtt. LX bis vel ter de die ex liquore appropriato.

Any of the above preparations may be made into draughts, or mixtures, with the aqua puleg. or aqua mentha ; with an addition of camphor julap, if necessary.

No. 9. Rx. Con. cort. aurant. 3iss.

Chalyb. cum sulph. præp. aa 3ij.

Spec. aromat. 3ij.

Syr. simp. q. s.

M. f. elect. cuius capiat Q. N. M. bis in die superbibend. 3ij. infus. amar.

No. 10. Rx. Lac. sulph. Drs.

Rubig. ferri præpar. gr. xv.

Myrrh pulv. gr. xx.

Spce. aromat. gr. iv. M. f. pulv. bis in die sumend. e coch. syrup. simp.

By such remedies the offices of the stomach, intestines, and lacteal vessels are restored ; the glutinous or serous matter is diminished, evacuated, or changed ; a more healthful and nutritious chyle is prepared and absorbed, the red particles of blood increase, the lips begin to assume their natural colour ; the arterial system acquiring strength and elasticity, the uterine vessels open, and the menstrual discharge becomes regular.

Practical Admonitions and Observations.

Bleeding should never be prescribed, except to robust, full habits, and when the disorder is recent.

Chalybeates agree best with the cold leucophlegmatic constitutions : all alcalines should be avoided at the time they are administered.

In full, plethoric habits, the neutral salts, or tremor tartar joined with cathartics, may be proper, and even the preparations of hellebore ; but this last is rarely necessary ; and one great objection to its use is, its drastic effects, which were remarked by Hippocrates.

Pede.

Pediluvia are useful, of salt, warm water, and balm, pennyroyal and favin : but they should not be used in œdematous swellings ; but, instead, frictions applied to the feet and legs, and a roller of thin flannel.

Cold, humid air, acid fruits, and most aqueous diet, should be avoided. A light nutritious diet, but of a dry nature, and a glass of wine, in some cases may be useful.

The quantity of fluids in the body should be diminished by a partial abstinence from liquids ; this alone has proved a cure ; probably by removing the lateral pressure from the arteries, rendering more dry and elastic the fibres, and restoring their power of contraction.

Exercise of riding, jumping, dancing, running up stairs ; opening the chest by the dumb bell, or by leaden weights made at the plumbers, for exercising the arms, should be strongly enforced.

The mind should be diverted with various objects, and the passions roused, if possible.

The Bath waters have been known to cure the chlorosis when most other methods have failed.

The gentlest methods of cure, with little or no medicine, should be first adopted, and then the milder remedies, and so gradually to the more powerful : but great care should be taken never

never to prescribe a remedy more violent than the disease.

On the SUPPRESSION of the MENSES.

The appearance of the menses in females is commonly from the fourteenth year to the fiftieth : but this varies in different constitutions ; for some have the discharge sooner, and experience its total suppression before the age of forty.

The cessation of this periodical and accustomed discharge is called a suppression.

The remote causes of suppression are, sudden cold ; a superabundance of the coagulable lymph in the blood ; grief, or fear ; previous diseases ; powerful evacuations, or an improper administration of astringents.

The immediate causes seem to be, a want of due force, or a preternatural resistance in the uterine vessels, probably from a diminished force in the heart and arterial system ; and this may arise from extreme plethora, or relaxation ; tumors in or near the uterus, or its coalition, may cause the menstrual suppression, &c.*

During

* *Suppreſſio menſum.*

Anatomical Examination after Death.

Symptomata.	Extispicia.
<i>Suppreſſi menses, cum ventris</i>	<i>Hydrops cysticus.</i>
<i>intumescentia & respira-</i>	
<i>tione lœſa.</i>	

Sep.

During pregnancy, some few exceptions to the contrary, the menses are totally suppressed.

In

<i>Symptomata.</i>	<i>Extispicia.</i>
<i>Suppressi menses cum doloribus & abdominis intumescentia.</i>	Uterus effuso sanguine turget & membranaceo processu obturatur.
— Ab immani pathemate & oculus tumet & dolet.	Exostosis in fundo obfita.
— Cum tumore in regione iliaca.	Hydrops tubarum.
— Totum intumescit abdomen mensibus sufflaminatis.	Hydrops cysticus.
— Accersunt hæmoptysim & tabem.	Pulmones pure exesi, aqua in thorace & pericardio.
<i>Menses suppressi accersunt, cachexiam.</i>	Sanguis concretus in corde.
— Item.	Serum in thorace stagnans, pulmones perduri & sanguis in cordis thalamis.
— Ascitem cum dolore immani circa pubem.	Uterus ingens & scirrhosus.
— Ventris dolores, abortum concitantes & quibus se adjungit febris cum tumore ventris & sudoribus uberrimis.	Colluvies sanguinea in abdome.
— Ventris intumentiam.	Moles carnea 34. libras ponderans.
— Diarrhoeam colliquati- vam cum spirandi difficultate, tulsi & sudore immodo.	Pulmonum tubercula.
— Genitalium inflamma- tionem.	Ulcus uteri.

Menses

In the suppressions of unimpregnated women, a fulness and disinclination to motion is per-

Symptoma.	Extispicia.
— Tumorem in regione pubis cum respiratione læsa, pedum oedemate, febre lenita, &c.	Tumores vesiculares in abdomen.
— Lypothymiam frequentem.	Lapides in pericardio, pulmones scirrhosi & subnigricantes.
Mensium suppressio dolorem circa inguen comitatur & tandem hæmorrhagiam accersit enormem.	Ulcus uteri.
Suppresso mensum succedanea febri quartanæ & tumori in hypochondrio sinistro.	Tubarum purulentia.
— Animi perturbationi & accersit asthma cum tussi & sputis purulentis.	Pulmones & intestina inflammatæ, glandulæ ventriculi tumidæ.
— Venæ sectionibus crebro institutis cui denuo succidunt ventris dolor & ascites.	Hydrops ovariorum, uterus scirrhosus.
Sufflaminantur menses post casum ab alto denuo fluunt & oriuntur dolores cum abdominis prominentiis quam plurimis.	Colluvies sanguinea in abdomen.
Post suppressionem, urinæ difficultas. Ischiadicus dolor seviens. Hysterieæ convulsiones, vomitus frequentes, ciborum aversatio.	Musculi erant quasi exearnes, vix ullam sanguinis vestigium usquam supererat. Venter totus falso opplebat sero. Ventriculus exiguis, contractus. Ren dex-

perceived; floridity or paleness; pains in the loins, groins, and head; faintings, nausea, loss of appetite, and, in time, all the functions, whether natural, vital, or animal, become depraved. Hæmorrhages happen from various parts: schirrus, dropfies, ulcers of the womb sometimes succeed, and even apoplexy.

As uterine suppressions frequently arise without any manifest cause or injury to the constitution, the absolute necessity of their removal becomes a question of the utmost importance, before any mode of medical treatment is adopted. Natural and secret causes operate,

Symptomata.

A suppressione, pectoris dolor,
difficilis respiratio.

Virgini annos 20. natæ san-
guis per uterum respondere
desit, ante duos annos; do-
lores ad hypocondria orti-
funt, dein venter intumuit
ad magnam molem.

Foemina, post suppressionem a
· quatuor mensibus, hysteri-
cas affectione dein etiam
mania laborabat.

Extispicia.

ter plures habebat calculos;
fordium ulcer & foetidum
erat in collo uteri.

Graveolentia ex utero & vicinis
partibus maxima existebat,
omnes exterius livebant a
prægressa inflammatione.

Venter amplissimus, vis aquæ
ingens; præcipuum & pecu-
liare vitium in testibus, tu-
bis, ipsoque utero erat.
Omnes hæ partes concretae
erant cum alis vespertilio-
num in massam tuberosam
informem.

Testes albi, duri, scirrhosi,
æquo maiores suo, pondere
quasi pone uterum trahi-

for

for salutary purposes, far above the reach of human comprehension: their effects are evidently perceived, but their investigation eludes the search of the most acute philosophical inquirer. A busy physician, then, either by misconceiving the case, or by a misapplication of remedies, though authorised by the best medical writers, might do more mischief with a few prescriptions than his whole life could repair. Certain conditions should be established, founded on experience, reason, and nature*.

Suppressions succeeding accidental hæmorrhages, violent evacuations, fevers, or any other debilitating diseases, should, in general, be left to nature, or treated only with tonics.

Partial or total suppressions from changes of air, climates, seasons, or slight colds, unless they

* In obstructed menses it might be reasonably expected, that Sydenham, Boerhaave, Astruc, Pitcairn, and the late Dr. Shaw, physician to King George the Second, had been directed in their writings, by reason, experience, and nature, from their acquired reputation: but *calomel*, a *mercurial*, is ordered by Sydenham and Astruc, in the dose of 20 gr.; Boerhaave, 10 gr.; Shaw, from 10 to 15 grains at bedtime, and of jalap 20 gr., compound powder of senna 20 gr., and six grains of vitriolated tartar mixed together, or 20 grains of some drastic aloetic pill the following morning; the same has been copied by Brooks and others. Skilful and experienced physicians indubitably must know, that homicide, or irremediable injury, is likely to be the consequences of such dangerous practices. What unsafe

they continue long, and produce ill effects, should be left to nature.

Suppressions producing inflammatory and other symptoms of inconvenience require medical assistance to remove the complaints or promote the discharge : but every attempt of this nature should be founded on a clear knowledge of physiology, the peculiarities of the constitution, and effects of remedies ; it should be conducted with great circumspection, taking particular care to be certain the female is not pregnant.

Sudden suppressions during the discharge from cold, or any other cause, are often removed by repeatedly bathing the feet and legs in warm water and common salt, half an hour or more, night and morning, or at night alone. This is excellent for recent colds in general. At the same time, a few grains of the pilula rufi, with or without the pilulæ gummofæ, may be useful.

The efforts, however, to produce the flow of the menses, should be particularly directed about the time of the succeeding period. Then warm bathings to the legs, and fomentations

guides must such writers be to the generality of junior practitioners ; and the more so, as fashion and prejudice have made them universally read, admired, and recommended ! The doses are 20 or 40 times more than it is, in general, safe to give, especially to delicate women.

for

for the abdomen, will be proper; and from 20 to 40 drops of the spirit nitr. dulc. joined with, from gtt. xxxx. ad 3j. of the *tinctura sacra*, or elix. aloës, and taken in penny-royal water twice in the day, a little warm.

In all inflammations, difficulty of breathing, and headach, arising from plethora, or in the pleurisy, bleeding and the antiphlogistic regimen will be proper: but when the fluids become depraved by a long suppression, the methods of treatment recommended in the *chlorosis* will best succeed; for these purposes, mineral alteratives, as the *pilula rubra*, cinnabar, &c. or our *pulvis mineralis purificans*, has produced excellent effects *; mercurials, antimonials, aloetics, and chalybeates.

Of the immoderate FLOW of the MENSES.

When the menstrual evacuation exceeds in quantity, or happens more frequently than usual, and causes debility, it is considered an immoderate flow of the menses.

1. The remote causes may be nourishing high diet, heating liquors, violent strainings or exercise, particularly dancing; violent passions of the mind.

* The methods recommended in the schirrus breasts, as cause-removing remedies in glandular and other obstructions, are most likely to succeed by a long perseverance.

2. Costiveness, or any efforts that direct or cause a great flow of blood to the uterus.

3. An over-distension of the extreme branches of the uterine vessels, from frequent abortions, child bearing, difficult and preternatural labours.

4. Living in warm chambers, an inactive life; too much freedom in the use of weakening liquids, as tea, &c.

5. The more immediate causes are plethora and floridity, a serous or acrid state of the blood; for large uterine haemorrhages, by discharging the red particles, deprave and render *acrid* all the fluids, *relax* the solids, and produce a *febricula*; these jointly often become the causes of future haemorrhages.

6. An impetuous force in the arteries, and an impeded circulation in the veins; by which the lateral appendices in the uterus are distended, and often become flaccid, and incapable of resisting the increased motion and quantity of the blood; hence they are ruptured, or corroded by an acrid state of the blood, and a violent irresistible flux is the consequence. This being repeated, produces a general relaxation of the uterine vessels, and the relaxation causes a continuance of the complaint; for, when by nutritious diet the vessels begin to fill, the blood, finding a weak resistance in these parts, opens again,

again, and unloads itself by frequent and often irregular uterine hæmorrhages.

7. Extraneous bodies in the uterus, schirrus, ulcer, abortions.

8. In the mind a great sensibility.

The symptoms and effects of an immoderate flux of the menses are in proportion to the quantity discharged and strength of the constitution *. A large flow may be salutary to some, but highly injurious to others. It may, by evacuating all the red particles, produce paleness,

* Anatomical Examinations after Death.

Morbi a catamenijs immodicis.

Symptomata.

Extispicia cadaverum.

Menses immodici, cum doloribus ventris, conatibus hysteris, crurum & abdominis intumescentia. Tumores cystici in abdomen.

— Accedunt tumores in hypogastrio & dein hy- Tumores steatomosi circa ova- drops. ria, aqua in abdomen.

Menses immoderate fluunt cum tumore in regione pubis. Tumor steatomatosus circa uterum.

Sectis cadaveribus per hunc morbum extinctorum in conspectum veniebant pulmones perduri, tumidi, infarcti, pure, exesi.

Intestina contracta, purulenta, putrida.

Mesenterium infarctum, tumens, induratum.

Hepar, maximum, scirrhosum.

Lien durus, ingens, saniosus.

Pancreas mole maximum, scirrhosum.

ness, faintings, coldness of the extremities, convulsions, œdematosus swellings in the feet, cachexy, dropsy, hectic fever, and consumption.

The manner of cure should be accommodated to the various causes. In cases of plethora and floridity, bleeding is proper, and a very abstemious diet; in the depraved state of the fluids, a cure will seldom be effected, but by restoring the blood to a proper consistence, and strengthening the solids; extraneous bodies, if possible, should be removed; the schirrus and ulcer require a distinct and peculiar treatment.

The time of administering remedies should be well considered; while the flux is present, great caution should be used. The sudden stoppage has produced dangerous disorders, as coughs, spitting of blood, the schirrus and cancer of the womb *; therefore the attempts,

Renes calculosi, a sede dimoti.

Uterus sanguine scatens, scirrhosus, quasi cartilagineus, purulentus, exesus disruptus.

In pectore & abdomine, stagnationes serosæ & folidæ.

Ovariorum & tubarum hydrops; tumores ingentes, scirrhosi, steatomatosi, &c.

* From having seen a great variety of cancerous, and other womb cases, I must observe that there have been many instances in which those disorders may be traced, to be owing to an ill-timed attempt to stop the menstrual discharge by styptics.

in general, at this time should be to moderate the discharge by rest, tranquillity of mind, and a diminished diet, but especially of the liquid kind to the plethoric. In weakness, the habit must be supported by light, nutritious, dry diet, and a glass of red port. Hot liquid food, as caudle, &c. increases the evil : but an almost *total abstinence* from food and liquids, by cutting off the supply, will avail more than anything in safely checking the discharge, in conjunction with *cold air*.

If these methods should not succeed, and it becomes necessary to check the discharge, the methods of cure should be applied according to the diversity of constitutions and cases.

Remedies for the plethoric and florid before the body is much relaxed.

Small and sometimes repeated bleedings in the arm.

Gentle laxatives of oil and manna, sal polyphrestum, magnesia, rhubarb, or cremor tartar.

Terra foliata tartari ad 3js.

Sal nitrum ad 3j. dissolved.

Mistura falina.

Tinctura rosarum cum pauco nitro.

Which may be administered alone, or occasionally with

Liquor. anodyn. min. Hoffm. cum nitro.

Elix. paregor. ad 3j.

Tinctura

Tinctura Thebaic. ad gtt. v.

Julep. e camphor. ad 3ss.

Cloths dipped in brandy and vinegar, equal parts, and applied cold to the loins.

Cucurbitulæ applicatæ mammis sine scarifica-
tione.

A cool room, lying coolly on a couch, an abstemious diet; but, above all, tranquillity of mind.

Remedies for the pallid, nervous, and relaxed.

Cortex Peruvianus ad 3ss.

Terra Japonica ad 3ij.

— sigillat. ad 3ij.

Bolus armena ad 3ss.

Sanguis dracon. ad 3ij.

Elix. vitriol dulc. ad 3j.

— — — paregor. ad 3j.

Infus. fol. papav. cum summitatibus millefolii & flori-
bus chamomillæ vulgaris.

Extract. cort. Peruv. ad 3ij.

— Ligni Campechen. 3ss.

Camphora ad gr. v.

Rad. valerian. sylves. ad 3ij.

Tinctura rosar. ad 3ij.

— — — corticis Peruv. ad 3ij.

— — — terræ Japon. ad 3ss.

Confect. democrat. ad 3j.

Aq. Selteran. cum vino rubro.

Liquor. anodynus mineralis Hoffmanni cum vel fine
paoco opii.

Cret. ppt.

More

More powerful remedies of the styptic kind, which are rarely necessary, and which should be used very cautiously, are,

Alumen. ad gr. xij. dissolved.

Serum aluminosum ad 3ij. ter de die.

Lixivium martis ad gtt. xv. in aqua.

Vitriol alb. ad gr. ss. } Dissolved in decocto cort.

— cœrul ad $\frac{1}{8}$ gr. } Peruv. vel tinct. rosa.

Colcothar vitrioli. ad gr. xx.

Tinctura styptica ad 3j.

Elix. vitriol. acid. ad gtt. xxv.

Flores zinci ad gr. x.

The tinctura saturnina, and the saccharum saturni, are recommended by authors ; but are very dangerous remedies : for besides their poisonous qualities, they may occasion *palsies* of the *stomach*, *intestines*, or other parts ; and though they may have succeeded in some instances, who knows how fatal their consequences have been in others ? It is the absurdly drawing *general conclusions* from *particular instances of success*, that the use of such preparations, and other numerous errors, have been adopted. When erroneous methods of cure are safe and innocent, even though arising from weakness of understanding, or ignorance in the prescriber, they are, in some measure excusable : but all poisonous and hazardous remedies should be banished from practice ; for the present limited knowledge in medicine does not justify their application. It may hap-

pen,

pen, that all medical attempts to stop the immoderate flux may prove fruitless, and death may be the consequence: in which case, the consciousness of having adopted a safe practice, must be not only satisfactory to the friends, but likewise to every practitioner of integrity.

F O R M U L Æ.

For the plethoric and florid, when the flux is recent.

Gentle, cooling laxatives in these cases should be cautiously prescribed, as any irritation on the rectum may sensibly affect the uterus, and increase the flux. For the same reason, all warm clysters are absolutely improper.

No. 11. Rx. Crem. tart. 3j.

— Mann. opt. 3ss. solv.

Aq. com. 3ij.

M. f. haustus, pro re nata sumendus.

No. 12. Rx. Ol. amydal. dulc. 3vj.

Mannæ opt. 3ss. ad 3j. solv. in

Aqua pura 3ss.; deinde adde

Mucilag. gum. arab. 3ij. M. f. haustus.

No. 13. Rx. Pulv. rhei. gr. xij. ad 3ss.

Magnes. alb. calcinat. 3j.

Aq. menth. vulg. simp. 3ss.

Tinct. senæ 3iij. M. f. haustus.

To check the impetuous circulation,

Sanguis mittendus ad 3vj. 3vij. vel 3xij.,

If there be no contraindication.

No. 14. Rx. Sal. nitr. gr. x. ad 3j.

Aq. puræ ʒis. syr. papav. errat. 3j. M. f.
haustus, ter vel quater in die sumendus.

To this draught may be added of julep e
camphor. ʒfs., and instead of the syr. papav.
from 3 to 10 drops of tinctura thebaica, if it
may be safely given.

No. 15. Rx. Tinct. rosar. ʒis.

Sal. nitr. puris. gr. v. ad xij. vel ad ʒis. M. f.
haustus, quarta quaque hora sumendus.

No. 16. Rx. Liquor. anodyn. min. Hoffmann. gtt. xx. ad i.x.

Aq. puræ ʒis.

Sal. nitr. g.. vel 3j. syr. papav. errat. 3j. M.
f. haustus, ter vel quater de die sumendus.

All stimulants and cordials should be, if pos-
sible, omitted : but, in case of nausea, to the
foregoing draughts may be added,

Tinctura stomachica ad ʒiiij.

— cinnamomi ad ʒiiij.

Confœt. cardiac. ad gr. xv.

Aq. cinnam. simp.

— menth. vul. simp.

— nuc. moschat.

F O R M U L A E.

For the pallid, nervous, and relaxed.

Laxatives, if absolutely necessary, are,

Tinctura rhei ad ʒis.

— senæ ad ʒvj. in aqua.

Magnesia

Magnesia alba ad 3j.

Rhubarb. ad gr. xij. cum 3j. crem. tart.

To check the immoderate flux :

No. 17. Rx. Tinct. terra Japon. 3ij.

Elix. vitriol. dulc. 3j.

Aq. com 3iss. M. f. haustus.

No. 18. Rx. Tinct. rosar. 3ij.

Vitriol. alb. gr. $\frac{1}{4}$ vel $\frac{1}{2}$. M. f. haustus, bis vel ter in die sumendus.

No. 19. Rx. Tinct. Thebaic. gtt. v. vel x.

Elix. vitriol. dulc. 3j. M. f. haustus quarta quaq. hora sumendus.

For the nervous, who cannot bear the more powerful opiates :

No. 20. Rx. Camphor. pulv. gr. iiij. ad v.

Pulv. rad. valerian. sylv. gr. xx. ad Dij.

Confect. democrat. gr. x. ad xv. syr. simp. q. s. M. f. bol. ter in die sumendus superbibendo 3ij. tincturæ rosarum, vel infus. rad. valerian.

If great pain attend, and opiates be thought necessary ;

Rx. Liquor. anodyn. min. Hoff. gtt. xx. ad xl.

Decoct. pectoral. 3iss.

Tinct. Thebaic. gtt. v. ad x. bis vel ter in die sumendus.

If a cough should be troublesome ;

Rx. Elix. pargor. 3j.

Aq. com. 3iss. M. f. haustus, ter vel quater in die sumendus.

Or,

Or, an oleous or sperma ceti draught with opium.

In this last case, all astringents are improper.

More powerful prescriptions.

R. Extract cort. Peruv. ℥ss.

Aq. cinnam. simp. ℥ij. fyr. papav. errat. ℥ss. M. capiae coch. parv. tertia quaq. hora, in tinct. rosar.

Of the styptic kind, and most powerful, but not always safe, and rarely necessary :

R. Flor. zinc. gr. v. ad x.

Tinct. rosar. ℥ij. M. f. haustus, ter vel quater de die sumendus.

Ligatures applied to the extremities are advantageous.

R. Alumen. gr. x. solve in aq. cinnam. simp. ℥ij.

Sanguin. dracon. gr. xv.

Tinct. Thebaic. gtt. v. M. f. haustus ter vel quater de die sumendus.

It happens sometimes, that neither opiates, nor styptic remedies will stop the hæmorrhage, until the quantity of blood is greatly diminished in the whole body, and then the emptiness of the vessels proves the cure.

These are the general methods of treatment during the immoderate discharge of the cata-menia : but the utmost efforts should be used to prevent hæmorrhages ; this can best be effected between the periods.

The

The treatment between the periods of the discharge should be directed,

1. To prevent the fulness of the vessels.
2. To strengthen the solids in general, and the uterine vessels in particular.

3. To restore the blood from a serous, or acrid, to a just consistence, and a mild balsamic state.

4. To allay nervous sensibility.

As hæmorrhages seldom happen, unless there be a sufficient quantity of blood in the body to rupture the vessels, one principal part of the cure consists in not only obtaining, but preserving a diminished quantity of blood, by a great *abstinence* from liquids; for by this means, the very sources of supply are cut off. If little be drank, the blood vessels, which are, or have been, distended beyond their proper dimensions, will gradually contract themselves to their original size, acquire strength daily, and not having so large a column of blood to circulate, they will resist the morbid disposition of nature to evacuate so violently the catamenia. If the usual supply of liquids, of whatever quality, be indulged in, the prospects of cure will be very doubtful, and in some cases impossible. Tea, coffee, and such liquids, therefore, should be avoided, or used very sparingly.

For

For breakfast. — Hartshorn shavings, or iſinglaſſ, boiled in water to a jelly, a little of which may be mixed with milk; but the quantity should never exceed a small teacup full or two, with a dry toast.

Simpolina, rice, fago, and falop, or a thin chocolate, with some ground rice.

If tea cannot be dispensed with, it may be mixed with the yolk of a new-laid egg and milk: but in all cases the state of the stomach and natural inclinations of each individual, should be consulted and accommodated in the manner least likely to disagree.

Dinner. — All soups and liquid food whatever should be avoided; as likewise the salt and ſpicy. Fish may be eaten.

Lean parts of meat, roast or boiled, and potatoes, or poultry, with little or no vegetables, or leguminous food, will be proper; as these last cause flatulency, and excite a stimulus.

Large draughts of small beer, water, or any other liquors, are improper; but, instead, a little wine and water, and even porter, may be used; though the quantity should be proportioned to the other food, conſtitution, and exercises of the patient.

Fruits should be used very moderately.

Tea-time. — No tea, or not above one ſmall dish, should be drank in the afternoon.

Supper. — Little or no supper, except dry toast, and a small portion of wine and water, or porter.

Bleeding a few days before the discharge is expected, is sometimes useful.

Costiveness should be particularly attended to, prevented, or removed : but this without purging, or exciting much stimulus in the rectum. Lac sulphur and magnesia, cremor tartari, lenitive electuary, sal polychrestum, manna, oil, stewed prunes, rhubarb in powder or extract ; or, in some cases, the pilula ex colocynth. simplicior. ad gr. iij. vel vj. according to the diversity of the constitutions, may be recommended.

Gentle exercise and a clear air will prove greatly advantageous.

These methods, without or with little medicine, will frequently succeed in removing the very causes of the uterine hæmorrhage ; by lessening the blood's motion and quantity, changing its quality, and strengthening the solids in general.

To restore the uterine vessels in particular ; general or partial cold bathing in the sea, or cold bath, or, in what the French call *bideè*, may be useful, when used with great circumspection : but, above all, placidity of the mind, and resisting those natural impulses as much as possible

possible, which direct a flux of fluids to the uterus.

When the repeated hæmorrhages have made great ravages in the constitution; when the crassamentum of the blood is in a great measure destroyed; the face extremely pallid; a serum or lymph circulates through the whole system, and all the functions, natural, animal, and vital, are injured; the modes of cure must be varied according to the circumstances. In general, however, the bark, bitters, and restoratives, in conjunction with the prescribed diet, may often succeed. If the blood be in an acrid state, then the pulvis mineralis purificans, cinnabaric preparations, and demulcents, properly applied, may avail: but if any of the principal viscera be very much affected, all medical assistance whatever proves fruitless.

To allay nervous sensibility, the mind must be particularly attended to, and all objects or ideas that engage the attention, or excite emotions of the soul, should, as much as possible, be suppressed or removed. In these circumstances, patients should endeavour to second the efforts of the physician, by a determined calmness and placidity of the mind; for without this, medicine will not succeed. The remedies most proper will be those of the nervous kind, which allay irritation without heat-

ing the habit or quickening the circulation, as valerian root, camphor, &c.

Practical Admonitions and Observations.

In regulating the necessary abstinence from drinks, no particular standard with regard to quantity can be established : but this should be determined by the effects liquids have in the constitution ; the excretions of urine, perspiration, and the peculiarities of each habit considered individually.

An immoderate flow of the menses is frequently accompanied with nausea and vomitings from extreme nervous sensibility, and the sympathetic consent of parts. In such instances both medicine and food increase the sickness and vomitings ; therefore neither should be administered. So great is the sensibility at such times, that the least smell of any thing, not even disagreeable, will excite vomiting ; and every effort to discharge upwards what may be on the stomach, occasions a rapid flow of the uterine flux.

The learned Dr. Cullen, of Edinburgh, proposes this query : whether gentle emetics would not be advantageous in an immoderate uterine hæmorrhage ? If long experience and strict observation in practice may determine this question, in opposition to a visionary theory, the answer

answer is, no ; and such a rough practice might in a few minutes destroy the patient. In most of the cases where the uterine floodings have proved fatal, vomiting is one of the most destructive symptoms ; its action always increases the discharge to a dreadful degree. As, therefore, it arises commonly from sympathy with the uterus, and from no disease in the stomach, increasing its force by a vomit, must more or less be attended with dangerous consequences *.

The immediate connection of the uterus and rectum forbids the use of warm or laxative clysters, vomits or irritating purgatives, as they would increase the menstrual evacuation.

No opiates should be used until it be first known whether the patient can bear them ; for small doses, even five drops of liquid laudanum, in very nervous and irritable habits, have produced dangerous convulsions.

* Practitioners should always recollect, that what may prove very efficacious in one country, may do irreparable mischief in another. In Scotland, notwithstanding the coldness of the climate, I have seen people walking half naked, without shoes or stockings ; the food is chiefly oatmeal and small beer ; the habitation's unclean. This hard way of living may produce a constitution that may bear *rough* and *violent* methods of cure : but practitioners in medicine should be extremely cautious how they introduce German, Dutch, or Scotch methods of practice in London, where people are reared, and live in quite a different manner.

The more powerful astringents, or styptics, should never be used but in cases of the most urgent necessity, and, even then, in small doses.

When the patient is recovering, the diet should be nutritious, but small in quantity, and gradually increased. The usual food should not be permitted, until there be no probability of a return of the disorder.

Of the FLUOR ALBUS, or WHITES.

A periodical or continual discharge of a white, pale, greenish, or yellow humor, from the uterine vessels, is called the Fluor Albus *.

It is commonly accompanied with a wasting of the body, paleness, debility, headach, pain in the back and loins, loss of appetite, and nebulous or turbid urine.

The remote causes are, a tender and delicate constitution of the body; too great humidity, either from liquids or moist air; costiveness; faint or viscid diet; too much sleep or indul-

*. Synonima & definitiones a variis scriptoribus.

Sauvages. — Leucorrhæa seroso-flavæ, vel puriformis materiae ex utero dclapsus.

Linneus. — Muci e sinu muliebri effluxus.

Vogelius. — Fluor albus. Nimia muci aut ichoris ex vulva profusio.

Fr. Hoffmannus. — Cachexia uterina sive fluor albus.

J. Juncker. — Fluor albus.

gence in bed; a sedentary life; suppression, or an entire cessation of the catamenia; frequent abortions; laborious and difficult labors; violent exercise; affections of the mind.

The immediate causes are a morbid affection of those vessels in the uterus that pour out the catamenia*.

The

* Authors have not perfectly agreed on this matter.

Hoffmān says, — *Nil itaque est dubii, quin per eadem vasas & poros fluxus materiae mucidæ contingat, e quibus ipse menstruus sanguis fertur, atque hujus adverte evidens argumentum est, quod mensibus suppressis, fluor albus in quibusdam, loco horum supervenientis observetur.*

Heister, speaking de menstruorum fontibus, p. 81, says, — *Quibus observationibus variisque rationibus nixus, naturam in hoc negotio variate, & modo per uterus, modo per vaginam, modo sorte per utraque loca exire, cum Friendio †, Morgagno, & Vatero ‡ existimō.*

De Graaf. — *Cum de fluore albo menstruorum nobis hic sermo sit, alia difficultas oboritur, num scilicet fluor ille, si continuus existat, a gonorrhœa sit distinguendus? Ita namque inter se conveniunt, ut nisi mentem adhibeat medicus, præ similitudine facile in errorem abeat, quanquam a diversis partibus procedant, & per distincta loca excernantur: siquidem fluor iisdem, quibus menstrua fluunt, ductibus ejicitur, &c.*

— *Gonorrhœam vero ex glanduloso corpore provenire, & per lacunas circum & in meatus urinarii exitu collocatas erumpere, cadaveris ali cuius mulieris hoc vitio infecti dissectio palam fecit; nam utero ejusque vaginâ innoxiiis, corpus glandulosum sive prostatas urethræ circumposita solum male affectas vidimus.*

† In emmenologia.

‡ De utero gravido.

The color, consistence, and quality of the fluor albus greatly differ in different constitutions.

Morgagni de sedibus & causis morborum, lib. iii. epist. xlviij.

Ob. 11.—Muliebris fluoris fontes in utero plerumque sunt. Rarum est enim quod in Historia Regiae Academiæ Parisenſis legitur; ex ampio alterius ovarii abscessu, quocum tuba communicabat, in hanc purulentum serum; ex eaque in uterus, ex hoc denique in vaginam defluxisse. Ipse autem uterus serfons est multitoloris aut simplicis, aut pūrulenti, &c.

Ob. 12.—Cum mucum, secundum naturam se habentem, uteri osculo, & proximæ cervicis parte absteruisse; comprimendo inferiorem uteri fundum, cervicem, & osculi uterini coronam, prodire ex his locis omnibus, & ordinate quidem, vidi albam crassiusculam materiam, quæ unde albus fluor provenisset, non obscure significavit.

Ob. 14.—Cum incidisset fundi cavum, inveni humida materia plenum ex albo in flavum & subviridem colorēm ver gente. Qua detersa, fundi interior facies apparuit, in minuta albida tubercula passim excrescens, &c.

In speaking of the early appearance of the disorder;

Ob. 15.—Noli autem mirari quod in puella id ætatis 14. annorum esse potuerit muliebris fluor. Pluribus enim circa pubertatis initia incepit, nonnullis etiam vel multo citius, raro quidem, non secus ac raro, sed revera multo citius menstruum fluxus est observatus. Lege observatione in nobilis puellæ novem circiter annorum a muliebri fluore persanatae, immo alterius quæ illa minor annis duobus, eodem morbo tenebatur, & quasi serum lactis nondum clarisatum emittente copiose, non sine ardore aliquo & pruritu.

In my course of female practice, I have known similar instances happen at an earlier period.

Many cases follow of excrescences being found in the uterus.

Ob.

tions. In the florid, it is commonly white and viscid : but in those of a thin, pale, or scorbutic habit, variously discoloured, serous, and sometimes acrimonious. These varieties seem to depend on the state of the blood, and indicate the necessity of applying *different modes of cure.*

Ob. 23. Virginis annos natæ triginta tres, &c. — Intercedum hæc experirer, & iis qui aderant, demonstrarem, exreferentias binas animadverti, alteram in fundi latere dextro cervice proximi, alteram paululo infra in eodem cervicis latere. Parva erat utraque & ex vesiculis compacta similibus. Verum secando, quæ inferiorem faciebant naturalem mucum dedere, & quæ superiorem, limpidam aquam.

Lieutard, pr. med. j. 538. — Cadaverum scrutatio hujuscem intricatissimi morbi indolem parum elucidat. quidquid enim inter dissectionem oculis subjicitur, nihil aliud est quam effectus morbosus a genuina causa multum discrepans, id genus sunt uteri, ovariorum, tubarum, cæterarumque partium genitalium lœsiones ; horum organorum infarctus, vel insolita crassities, exulcerationes, putrefaction, gangræna, &c.

Nee major lux affulget ex introspectis visceribus, quæ diversimode labefactata se præbent.

From a variety of opportunities in examining whether the fluor albus is only a discharge from the uterine vessels or vagina, the following is the result of the observations.

1. That in plethoric and full habits, this discharge does sometimes flow from the vessels or glandular parts of the vagina ; and when this is the case, it is white, viscid, and benign.

2. That in cachectic habits it principally flows from the uterus, and is various in color and consistence ; but commonly of a thinnish and serous nature ; and if acrimonious, a deeper tinge is seen round the margin of the spot.

The greatest number, however, will be cured by the following, or similar prescriptions; but particularly the debilitated.

No. 26. Rx. Calomel ppt. gr. vij.

Pil. Rusi ⋄ij. M. f. pilulae №. xij. sumat unam omni nocte.

No. 27. Rx. Liimat. mart. præp. 3vj. vel colcoth. vitriol. pulv. 3fs.

Pulv. cort. Peruvi. 3j.

Spec. aromat. 3ij.

Syr. simp. q. s. f. elect. cuius capiat q. N. M. bis vel ter in die.

This disorder is not common to the plethoric and florid: but when it happens, an antiphlogistic regimen, cooling evacuations, occasionally, and exercise, will best succeed.

Pulv. rad. jalap. ad gr. xij.

Nitrum ad gr. xv.

Sal polychrestum ad 3j.

Cremor tartari ad 3ij.

Electarium lenitivum ad 3ij.

Magnesia alba ad 3fs.

Lac sulphuris ad 3j.

Spirit nitri dulc. ad gtt. xxx.

No. 28. Rx. Pulv. rad. jalap. gr. viij. ad gr. xij.

— fal. nitr. gr. x.

Aq. com. 3fs. syr. simp. q..s. M. f. haustus.

No. 29. Rx. Elect. lenitiv. 3ij.

Lac sulph. 3ij.

Pulv. jalap. 3fs. syr. simp. q. s. M. f. elect. cuius capiat q. N. M. bis vel ter in septimana.

Rx. Sal.

No. 30. R. Sal. polychrest. 3ij. solv. in aq. com. 3vjſſ. Spt. nitr. dulc. 3ij. syr. croci q. s. M. f. mis-
tura, cuius capiat coch. iij. ter de die.

No. 31. R. Sal. polychrest.
— nitr. aa gr. x. M. f. pulvis, bis de die su-
mendus ex cyatho aquæ puræ.

When the fluor albus is of various colors, not acrid, and the patient pale, languid, and debilitated, aloetic laxatives, or rhubarb given at proper intervals, stomachics, chalybeates, and preparations of bark, turpentine, and vitriol, will be proper with cold bathing.

As the *effects* of the disease by an examination after death are perceived to have been *congestions* in the abdominal viscera, arising from obstruction, nothing can be more rational than to prescribe mercurials, antimonials, or chalybeates, in small doses, as the most certain deobstruents, and averters of those effects.

Aloetica purgantia cum calomel ad gr. fs. vel gr. j. alterna quaque nocte.

Terebenthina e Chio
— e Cypro } ad 3iſſ.
— Veneta }

Tonica and astringentia omnia. See Immoderate Flow of Menses.

Tinctura Guaiacina simp. ad 3iſſ.

— vol. ad 3j.

Balsamum Copaiba ad gtt. xl.

— Canadense ad gtt. xxxx.

— Peruvianum ad gtt. xxxvj.

Balsamum

Balsamum Traumaticum ad gtt. xxxx.

Spt. terebenth. æther. ad gtt. xij. ex cyatho aquæ
puræ, vel vini aquâ diluti bis vel ter de dic.

F O R M U L A E.

No. 32. Rx. Terebenth. e Chio zj.

Extract. rhubarb. 3ss.

Colcoth. vitriol. Æd. syr. balsam. q. s. M. f.
pilulæ mediocres; capiat ij. vel iij. mane & nocte.

No. 33. Rx. Gum. olîban. 3ss.

Saechar. alb. 3j. tere simul; deinide add.

Tinct. cort. Peruv. 3j.

Aq. cinnam. ten 3ss. M. f. haustus bis vel ter
de die sumendus.

No. 34. Rx. Extract. gentian.

— cort. Peruv. aa 3j. M. f. pilulæ N°.
xxx. capiat ij. ter de die superbibendo cōch. iij.
misturæ sequentis.

No. 35. Rx. Infus. amar. 3viss.

Tinct. valerian 3vj.

Elix. vitriol. dulc. 3ij. M. f. mistura.

No. 36. Rx. Pulv. cort. Peruv. 3ss.

Bals. Copai. 3ss. syr. balsam. q. s. M. f.
elect. cuius capiat q. N. M. bis de die superbibendo
haust. sequent.

No. 37. Rx. Vin. chalybeat. 3j.

Infus. amar. 3ss. M. f. haustus.

Or,

No. 38. Rx. Decoct. cort. Peruv. 3ss.

Elix. vitriol. acid. gtt. xv.

Tinct. stomach. 3ijj. horis duabus ante prandium
sumend. quotidie.

Or,

No. 39. Rx. Liquor. anodyn. min. Hoff. 3ss.

Tinct. sacræ 3ss. M. capiat. gtt. ix. bis vel ter
de die ex cyatho infusi flor. chamaemel.

Fumes

Fumes of tacamahac, mastich, amber, gum benzoin, and thus, are useful, applied to the uterus, or rather vagina.

If the discharge be acrimonious, so as to irritate, or excoriate the vagina, the cure will be best effected; evacuations being premised.

By changing the whole mass of depraved humors to a milder state, chiefly by alteratives from the mineral kingdom; and afterwards, if necessary,

By stomachics, cortex Peruvianus, bitters, and chalybeates, the cold bath, &c.

R E M E D I A.

Pulvis mineral. purif. fort. ad 3j. ter de die.

Mercurius saccharat. (Eding. ph.) ad gr. ij.

Æthiops mineralis ad 3j.

Cinnabar factitia ad 3j. bis de die.

Merc. dulc. sexies sub. gr. $\frac{1}{2}$ ad gr. fs. omni nocte.

Pil. mercuriales ad g. ij. bis in die.

F O R M U L Æ.

No. 40. Rx. Pulv. miner. purif. fort. gr. xxv. vel 3fs.

Aq. puræ 3fs.

Mucilag. gum, Arab. 3fs. M. f. haust. bis vel
ter de die sumend.

Or,

No. 41. Rx. Cinnab. fact.

Pulv. rhabarb. $\frac{1}{2}$ 3j. syr. balsam. q. s. M. f.
pilule N°. xxx. capiat ij. bis de die.

L.

Or,

Or,

No. 42. Rx. Merc. sacchar. Pharm. Edinb. 3j.

Conf. cynosbat. q. s. M. f. pilulæ N°. x. capiat unam alternis noctibus.

No. 43. Rx. Cinnab. fact. 3j.

Camphor. pulv. 3ss. syr. balsam. q. M. f. pilulæ N°. xxx. capiat ij. bis vel ter de die.

No. 44. Rx. Merc. dulc. sex. sub. ppt. gr. v.

Conf. cynosbat. q. s. M. f. pilula No. xv. capiat unam bis vel ter in septimana.

No. 45. Rx. Pulv. mineral. purif. mit.

— e tragacanth. c. aa 3jj. M. dividendus in xx. doses, capiat unam ter de die ex cyatho aquæ puræ.

During the administration of these alternatives, all acids and salt diet should be avoided.

After evacuants, injections of aqua vegeto mineralis, or weak solutions of vitriol alb. may be used; but never until the causes are removed.

These are the means by which the cure of the *fluor albus*, arising from different causes, be attained.

In the first, the cure seems to be effected by diminishing the superabundance of the fluids.

In the second, by restoring the tone of the stomach and intestines; by which a more nutritious chyle is separated and received; on which all good health depends.

The third, by directing powerful remedies in small doses to the minute system, so as never to disturb or stimulate the constitution; by opening

opening all the glandular secretions and excretions, and by diminishing the load of morbid fluids, the most salutary effects are experienced.

There is, however, a fourth means of cure, without which all the others may fail; tranquillity of mind, clear pure air, moderate exercise, and a judicious diet.

Admonitions and Practical Observations.

The suddenly checking the discharge by astringents, internally or externally applied, especially before proper evacuations, and other cause-removing remedies*, may prove very injurious to the constitution. What should be evacuated may be absorbed by the lymphatic system, and produce slow nervous fevers, hectic and consumptive complaints; calamitous, cachetic, and chronic diseases; schirrus and cancerous ulcers of the uterus. It is, therefore, much safer to wait patiently for a cure being effected by the gradual and almost imperceptible changes produced in the whole constitution; this may frequently depend on well-planned diet and alterative medicine.

Before any means of cure are adopted, the

* This word I should imagine may be aptly applied to medical writings. Cures are either palliative or radical: what moves causes may, therefore, be called cause-removing remedies, in contradistinction to palliatives.

quantity and quality of the discharge should be ascertained by viewing the linen. To a skilful and experienced physician, this will not only indicate what remedies will be most eligible, but accurate prognostics may be formed of the ease or difficulties to be encountered in the cure, and likewise the state of the patient's habit. In proportion as the evacuation is copious, serous, and acrimonious, so will its removal require a longer or shorter space of time.

Large doses of powerful mercurials, drastic purges, and even cantharides, and preparations of lead, are recommended internally by some authors. Such medicines should be avoided in most cases, particularly to delicate females, as they may prove destructive.

The disorder is slow in its advances, seldom *urgent* or *serious* in its consequences, and therefore does not require very *desperate* remedies.

Previous

* The destructive effects of cantharides, preparations of lead, and other poisons, may be collected from the following observations of the truly great Hoffman.

F. Hoff. lib. ii. — De hyoscyamo, memorabilis est locus in Scribon. Largo, c. 181. dum ait : hyoscyamum qui biberunt caput grave venisque distentum habent, mente abalienantur cum verborum altercatione, unde etiam nomen herba trahit altercum : postea sopiuntur & omni sensu carent, livescentibus membris corum.

Similar

Previous to prescribing the mineral alternatives, a small bleeding may be necessary, especially

Similar effects are produced by a decoction of the roots of hemlock. Mathiolus in comment. Dioseorid. lib. vi. cap. 110. Many examples may be seen in Wepfer.

Quæ veneni vim ac naturam æmulantur medicamenta, in eorum numero sunt emetica & purgantia draſtice ſive vehementiora; ſunt etiam stupefactiva quædam ex mereurio male præparata.

Ex emeticis multum vehementiæ & virulentæ qualitatis habent ſibiata, præfertim in ſubſtantia data, ut antimonii vitrum, mercurius vitæ, crocus metallorum, sulphur auratum, &c.

De venenis ſoporificis papaver, opium, ad stupefactiva vero, quæ valentioris ſunt virtutis, omnia ex mandragora, hyoscyamo, folano; stramonio, datura, pertinent.

De ceteris medicamentis virulentam naturam referentibus.

Cantharides, nux vomica, & medieamenta ex metallis, auro, venere & saturno parata quorum non adeo tutus uſus eſt.

Ex omnibus, quæ inimica naturæ ſunt, nullum eſt, quod tam valide & tam graviter intestina earumque tonum deſtruat, quam *saturnina quædam*. — Repetita ſi fuerit etiam minor doſis, lenta morte homines tollunt. — Quod Galli la poudre de ſucceſſion voeant, saturninæ eſtē proſapiæ conſtat.

From lead in wines.

Plura de hiſce legi poſſunt in *Miſcellan. Nat. Curios.* dec. iii. anno iv ob. 30. 92. & 100. item dee. i. anno iii. 131. & in Hoffman. in *dissertatione de metallurgia morbiſica*.

Scribonius Largus. 184. p. 101. *Dioscorides Anazarbaeus*, lib. 6. cap. 27. *Cæſalpinus*, lib. iii. cap. 24.

Borellus, cent. iv. ob. 32. — *Observatione digna memoriarum reliquit: habui amicum, qui ſacchari saturni nimiam hauiſit quantitatem, ut tamquam paralytieus & fere mortuus factus fit;*

cially if the patient be young, and the disease accompanied with a turgency of the vessels : the quantity, however, extracted, should not exceed above four or six ounces ; and this will be improper, if the legs should be œdemato-
tous.

When the disorder has been of long continu-
ance, either from neglect, or injudicious treat-
ment, a great relaxation of the whole system is
the consequence ; in which instances, the Bath
waters, and others of the chalybeate class, have
been used with extraordinary success.

After the disorder is cured, there often re-
mains a great relaxation of the seminary vessels
and glandular system, productive of an ejec-
tion of gelatinous lymph upon any slight emo-
tions of the mind, or bodily efforts : these
symptoms are best removed by the cold bath,
bark, and vitriolic preparations.

In every case, the original causes of the dis-

rigebant membra ejus, tamquam congelatus & apoplecticus
erat.

I myself was witness of a person being destroyed by only
taking ten drops of Goulard's extract diluted in water, to the
strength of the *vegeto-mineral water*.

The instance of Mr. Hankey was a very extraordinary
escape : this gentleman drank a glass full of the *extract of
lead* ; I was immediately sent for, and by a very successful
management saved his life. See this extraordinary case, and
its mode of treatment, in my other work on poisons, &c.

case should be accurately investigated, and skilfully removed.

Particular attention is required, lest the ulcer of the womb or bladder, or the gonorrhœa, be mistaken for this disorder.

The first is accompanied with pains similar to labor ; a very foetid discharge ; and a schirrus of the *os uteri* ; ulcers, or fissures.

The second may be known by difficulty of urine, acute pains at the neck of the bladder, immediately under the pubis, and by purulent pus in the urine.

The third is discoverable by the *ardor urinæ*, inflammation of the clitoris, and acrimony of the discharge, issuing from the female urethra, or lacunar glands, &c.

The fluor albus is generally without pain, though if very acrid, it may produce smarting, and excoriation of the parts.

On the HYSTERIC PASSION.

Flatulency in the intestines and stomach, and a sensation of a globe ascending in the œsophagus, and constringing the fauces, so as to threaten suffocation, is nominated *Passio Hysterica*, or the hysterick passion : but it is generally accompanied with a variety of other symptoms.

This disorder being complicated, may be di-

vided into three species; by which means it will be more clearly comprehended, and more methodically treated.

i. *Passio hysterica flatulenta*, or the flatulent hysterick passion.

ii. *Passio hysterica convulsiva*, or the convulsive hysterick passion.

iii. *Passio hysterica stertorosa vel apoplectica*, or the stertorose apoplectic hysterick passion.

There might be delivered many other species and subdivisions of this complex disease, originating from various caufes, agitating the human body and mind with great vehemence.

The *symptoms* common to all the species before the fit commences, are; general debility; an unaccountable lowness of spirits; listlessness, and melancholic ideas; a total aversion to any thing

* Synonima & definitiones a variis scriptoribus.

The ancients supposed this disorder to be a suffocation of the womb, from their inaccurate knowledge in anatomy, and called it ἡ πνίξ τῆς εὐ γαστρί. — *Hippocrat.* sect. v. 602, 16 & 29. & alii locis.

Sydenham, *Afflictio hysterica*,

Sauvages, *Hysteria*, 135. G. xx.

Artuum organorumque etiam internorum spasmus clonicus
tonicusve, paroxysmis fugacibus leviter variantibus, cum mor-
tis formidine intensissima.

Stahlianis, *Malum hysterico-hypochondriacum. Melan-*
cholia nervea Illust. Lorry. Isterismo Cocchi, Bagni de Pisa.

thing requiring attention ; grief, fear, sorrows, suspicions, anxiety, agitate the mind violently ; dulness, or increased sensibility, in all the external and internal senses ; faintings, watchfulness, drowsiness, or stupor.

The patient is restless at night, or has troublesome dreams, with evident marks of indigestion ; is frightened by the incubus, or night mare ; receives no benefit from sleep ; relaxation increases every day ; and the mind is agitated on the most trifling occasions with surprise and timidity.

The eyes dazzle, or are dim, or have a confused vision ; giddiness and swimming affect the head.

Palpitations of the heart ; oppressions and uneasiness in the thorax increase the patient's dismal apprehensions.

Linnæus, 126, Præcordiorum pressio sub pectori cum flatulentia, suffocatione, anxiate, palpitatione, verticis pressione.

Vogel, Hysteria anxias præcordialis cum spasmis ventriculi ac intestinorum, variisque congestionibus conjuncta, chronica.

Cullen : Hysteria ; ventris murmura ; sensus globi in abdome se volventis, ibique strangulantis ; sopor, convulsiones ; urinæ limpidæ copia profusa ; animus, varius & mutabilis. These are more the symptoms, than the definition of the disease ; nor are they well chosen as characteristics by Dr. Cullen.

Home, Malum hystericum.

The respiration is short, painful, and difficult.

The pulse becomes small, irregular, sometimes intermitting. Sensations appear in various parts suddenly, like cracking and explosion, similar to the electric spark ; and, perhaps, from a fluid passing through the nerves, similar to the electric.

The appetite is depraved or lost, with a painful, bad digestion, accompanied with flatulency in the stomach or bowels, colicky pains, constipations, or a diarrhoea.

The urine is very pale and copious, as in all the other nervous affections.

The *general symptoms* during the paroxysm or fit, are : palpitations of the heart ; respiration is obstructed, short, painful, and irregular.

Contractions like strangulation arise in the throat ; with a sensation of a ball or globe ascending, nearly choaking the sufferer.

The tongue falters, trembles, and incoherent things are spoken ; the voice changes ; some roar, scream, or shriek immoderately ; others sigh deeply, weep, or mourn plaintively.

The eyes are agitated, look exceedingly wild, are convulsed, fixed, or staring.

The

The pulse is weak, uneven, changeable, intermittent, or scarce perceptible.

Hiccups and flatulency distend and agitate the intestines, stomach, and œsophagus, without evacuation of wind. Spasmodic contractions pervade all the alimentary canal.

An eruption of wind, either upwards or downwards, relax and mitigate the symptoms.

Vomitings or purgings always relieve; and they are commonly accompanied with a violent discharge of air, which had been detained, during the paroxysm.

There is likewise a copious discharge of urine, sometimes containing a thick sediment.

When the paroxysm continues violent, then succeed faintings, dreadful and strong convulsions, stertor, from the mouth issues froth; and the disorder, except in not having suddenly seized the patient, assumes the form of epilepsy, and even apoplexy.

After the conclusion of the paroxysm, there remains great debility, weariness of the whole body, headach, and pains in the convulsed muscles, as though the body had been contused or beaten.

In the mind, perturbations on the slightest occasions, petulence, impatience, and all, or part, of the symptoms which preceded the fit.

These are the general symptoms of hysterical complaints: but besides these, they imitate every disorder incident to the human body, and they are more or less violent in every individual.

The *causes* of this alarming disorder are various: but first should be considered the *remote* or predisposing; which are,

1. A delicate and tender hereditary structure of the body.
2. Exquisite irritability and sympathy of the nerves.
3. Inanition, or profuse evacuations by vomiting, stools, menses, hæmorrhages, or fluor albus, &c.
4. A retention of the catamenia, lochia, or other necessary excretions.
5. Great natural earnestness on all occasions, and extreme sensibility of the mind.
6. Colicky pains, nephritic, uterine, and other complaints.
7. A viscid, acrid, acid, or flatulent diet.
8. High-scented perfumes.
9. A sedentary, inactive life.
10. An unhappy disposition to anticipate misery or misfortunes, distresses or dangers, where none in reality exist.

The more immediate or proximate causes are,

1. Distensions of air, perhaps *fixed*, in the intestines.

2. The peristaltic motion of the intestines is inverted.

3. The air which should naturally pass downward, or be partly received with the absorbed chyle, are retained, augmented, and repeatedly generated by the grosser parts of the aliments; this accumulated air, by the inverted motion of the intestines, takes its direction upwards, passes through the stomach into the œsophagus; and thus the whole alimentary canal, too much distended to excite acute pain, is blown up like a bladder.

4. The sphincter of the rectum, in the inferior part of the intestines, is strongly contracted; the entrance of the œsophagus, in the superior and primary part of the intestinal tube, is shut, and both so over-distending their fibres by an increased air, as to destroy the elastic power of the muscles destined to contract, or dilate these orifices.

5. The pressure of the air against the pharynx and larynx, produce the apprehension of suffocation.

6. Deglutition is rendered very difficult, or is totally suppressed, from the distension of air overcoming the voluntary and involuntary muscular motions necessary for swallowing.

7. What-

7. Whatever is attempted to be drank during the paroxysm is forced back from the same causes.

8. Distensions of the œsophagus, stomach, and intestines, compress the *diaphragm*, *lungs*, *aspera arteria*, the *glottis* and *epiglottis*, and all the thoracical and abdominal *viscera*, nerves, arteries, veins, lymphatics, and thoracic duct.

9. Compressions on arteries, or the stimuli of acrimonious blood acting on the heart, retard or quicken the blood's motion through the lungs, or the head, or superior and inferior extremities: hence the changes observable in the pulse.

10. Compressions on the returning veins, particularly the external and internal jugulars, or the occipital veins, may produce dangerous congestions of the blood, either in the venal system of the brain, or in the sinuses of the *dura mater*.

If the lymphatics should be obstructed in their course, the ventricles of the brain may be turgid with lymph; hence, likewise, dilatation of the pupils, &c.

11. The arteries receiving fresh blood from the heart, and the veins being incapable of returning it, may occasion irritation or compressions in the nervous system.

12. Irritation on the nerves will produce convulsions;

vulsions ; but compressions on the *cerebrum* and *cerebellum*, stupor, comatose symptoms, and even apoplexy, an imperceptible pulse, and *lypothymia*, or faintings.

13. Compressions of the lymphatics, lacteals, and *ductus thoracicus*, will prevent or retard nutrition ; hence debility, depressions, or lowness of spirits, and a diminution of the moving muscular powers.

14. Compressions of the viscera pervert all the secretions, and hinder excretions, digestion in the stomach, bile in the liver, pancreatic juice in the pancreas, urine in the kidneys ; and the vessels in the abdomen, more or less, share similar effects with those of the superior parts of the body.

15. The *hepatic* system of blood vessels is principally concerned ; for the conflux of blood from the principal abdominal viscera being conveyed to the *vena portæ*, the branches of which have no valves, stagnations and congestions arise, not only in that viscus, but in the stomach, intestines, omentum, pancreas, spleen, mesentery, the uterus and its appendages, kidneys, and bladder ; where schirrous tumors, adhesions, cancers, ulcers, and mortifications generate. *Stahl*, in his Dissertation de *Vena Portæ*, not inaptly called this vein *porta malorum*.

Vitiated

Vitiated blood received from the diseased abdominal viscera into the *vena portæ*, will produce an ill-secreted, black, vitiated *bile*; and this being conveyed to the *duodenum*, cannot unite the oleaginous with the pancreatic and serous juices, nor has it power to expel the grosser aliments; hence costiveness, ill-prepared chyle, &c., &c.

16. The perversion or retardation of the *secretions* and *excretions*, either diminish the quantity of chyle, pancreatic juice, bile, or urine; or change their qualities; hence the aliment passing from the stomach, receives not its proper changes in the *duodenum*. A depraved chyle is the consequence.

17. Depraved *chyle* produces a morbid state of the blood.

18. Vitiated *blood* generates impure and aerimonious fluids, and diseased, weak solids; these are constantly irritated by the sharp stimulating qualities of the fluids.

19. The urine is secreted copiously, and discharged without those constituent particles which are evacuated in health, and dependent on salutiferous digestion, chylification, and sanguification.

20. The fluids once in a state of depravation, act with increased energy on the nervous sensible system and muscular fibres; the sensible

nervous system re-acts on the mind and organs of digestion: hence the cause becomes the effect, and the effect the cause of all the distressing evils, obstructions, &c.

21. The *causes* of convulsions in various parts are easily conceived. The free admission of the nervous influence to all muscular parts, constitutes regular action, voluntary and involuntary; but irritations produce the same effects as punctures, or stimuli of acrid preparations in muscles, or in the heart; compressions on the brain or nerves are similar to ligatures surrounding nerves. The former excite contractions even after death in muscular parts; the latter, a diminution or deprivation of the moving powers during life: hence stupor, coma, syncope, &c.

These convulsive effects, in part, are produced, although the communication with the brain is intercepted, or the principal descending nerves are compressed; hence partial convulsions.

The total and continued compression of the nerves, however, produce palsy; but the blood circulates in the part, unless the artery is compressed.

* These causes of symptoms are not so methodical as they might be delivered; but whoever wishes for a more accurate account, may consult my *Schola medicinae universalis nova*.

A ligature on the arteries destroys animal heat, by the destitution of the arterial contractions, and the free circulation of the blood; hence animal heat depends chiefly on the circulation of the blood.

The circulation of the blood depends on the nerves communicating with the heart from the brain; for though the heart and other muscles contract after death, on being stimulated, it only demonstrates, that those parts still contain some of that *nervous principle* which existed in life, and of which they are not deprived *of even post mortem*.

As this *nervous principle* evidently exists in muscular fibres in death, it is easy to conceive its powers were more energetic and active in life, and therefore more capable of contraction. It must appear rational, that convulsions may happen in various places, while others are at rest, not being stimulated; and the mind at the same time lose its perceptibility, by compressions on the brain, as in the epilepsy, &c.

22. All the sensations nominated nervous, are perceptions in the brain, or *sensorium commune*, conveyed by the irritated nerves of parts, and owing to the communication and sympathy of the nervous system.

In hysterical complaints, the *par vagum* and *intercostal nerves*, their branches and communications,

cations, are particularly irritated and affected. Whoever reflects on the importance of the parts diseased; the structure and distracted state of the nervous filaments and ganglions for conveying the alarm to the senses; with the various exertions to oppose the formidable enemy thus attacking the principal and vital parts, must be struck with wonder and admiration at the uncommon wisdom of nature in the construction of this curious system of the human body.

The nervous *consensus partium* easily explain the palpitations of the heart, the difficulty in respiration and hiccups, from the efforts produced by obstructed circulation, and compressions in the lungs, or irritation on the dia-phragm, &c. &c.

The most susceptible minds being the greatest victims to this disorder, demonstrate clearly the surprising effects of the mind on the body: for it often happens, that the compassionate spectators, from surprise, fear, and sensibility, are attacked with these complaints, as happened lately at Paris by animal magnetism; and it is common in families, to see a female attendant attacked in the same manner from a perturbed imagination. Those who possess least feeling, are least affected by this disease, and can hardly conceive its possibility; are too apt to conclude

on the feelings of others by their own sensations : but this is a partial and false conclusion.

This extreme nervous sensibility seems to arise from the blood, or fixed air, acting as a strong stimulus on the nervous system, and the re-action of the *nervous influence* on the circulating powers.

Persons of strong health never experience the disorder, even though the mind be violently affected ; it happens to the delicate in mind and body, whose blood is in an acrimonious state from the causes already enumerated. That the mind is very sensibly affected by the diseases of the body, no stronger proofs need be adduced, than the change of the disposition under any chronic disease ; where the most placid, tranquil minds, become peevish, ill-natured, and often irascible.

The state of the blood, form of body, their acting powers on the nervous system, and this again on that immaterial part called the mind, cause all the diversity of character amongst human beings, and has a great influence in the moral conduct of human life. Envy, generosity, illiberality, liberality, fortitude and timidity, placidity and irascibility, happy or unhappy sensations, very much depend on the state of the blood ; and the physician who most reflects,

reflects, and best comprehends these diversities in human nature, will always be most capable of relieving diseases. To the discerning and observing, the physiognomy will convey much knowledge of human character, and it may direct a proper choice of remedies, more adapted to the various constitutions, than is apprehended by those who idly fix one method or standard of cure to all objects that offer. He who acts more by the exigency of the individual cases in physic, than by the written directions of medical authors, will always best succeed in conquering diseases. There is an alertness in prescribing acquired by long experience, repeated reflection, and extensive practice, that no books can communicate.

The history of medicine furnishes us with many instances in hospitals and orphan houses, of transferring convulsive epileptic disorders from one affected patient to another by sight, and the force of imagination*.

The

* Baglivi, in his *Praxis Medica*, cap. 14. §. 2. mentions a young man of Dalmatia, who, from looking at a person in an epileptic fit, was himself affected in the same manner.

The late Dr. Whytt, of Edinburgh, says in his book on nervous disorders :

" It frequently happened in the royal infirmary here in
" Edinburgh, that women have been seized with hysterical fits
" from seeing others attacked with them."

One of the most remarkable instances of this kind happened

The *prognostics* of this complex disorder are to be formed from the force or magnitude of the different paroxysms, and constitution of the patients.

L. The

in the poor house at Haerlem, in the time of the famous Dr. Boerhaave, and is recorded by his nephew in the following manner :

In domo, qua pauperes ex eleemosynis publice aluntur in civitate Harlemoni, perterrita puella incidit in morbum nervorum convulsivum, certis paroxysmis reducem: adstantium & adjuvantium in eam intenta, itidem corripitur eodem morbo; postridie altera, deinde tertia, quarta, imo fere omnes, tam pueri quam pueræ; status miserrimus! corripitur hæc, corripitur illa, imo fere omnes eodem tempore, dum unum alter aspicit, prosternuntur.

Medici solertes frustra adhibent quæ dictat ars, saluberrima antiepileptica remedia.

Configitur tandem ad Boerhaavium, qui misertus infelici pauperum sortis, petiit Harlemonum, & dum rem examinat, invadente in unum paroxysmo, vidit convelli plures specie epilepsia.

Datis incassum optimis remediis a medicis sapientibus & ad imaginationem ex uno in alterum traducto morbo, his rite perpensis, hanc avertendo, credidit posse curam obtineri, & obtinuit.

Scilicet præmonitis ephoris, præsentibus omnibus, jussit cameram disponi fornaces portatiles, prunis ardèntibus instratas, atque iis imponi ferreos hamulos ad certam figuram adaptatos, tum ita mandavit:

Quia omnia frustra forent, se aliud nescire remedium, quam ut qui primus, puer foret vel pueræ, infausto morbi paroxysmo arriperetur, locus quidam nudati brachii candente ferro ad os usque inureretur; utque gravitate pollebat dicendi-

per.

1. The flatulent hysterick passion is rarely attended with any immediate or even future danger;

perterriti omnes ad crudele remedium, dum instare sentiunt paroxysmum, omni mentis intentione & metu dolorificæ infusionis, eidem resistunt fortioris oblatione ideæ.

Et certe quantum valeat hic ab objecto animæ intentæ revulsio, docet epilepsia diversimode curata, ut quidem ipse terror eandem sustulerit, febris epidemica, quartana, ptyalismus, matrimonium, virga. — Abr. Kaaw Boerhaave, *Impet. faciens Hippocrati dictum*, §. 406.

There is a wonderful sympathy between the nervous systems of different persons, whence various motions and morbid symptoms are often communicated from one to another, without any corporeal contact or infection.

The sight of one person vomiting has often excited the same action in others.

Yawning is propagated from one person through a whole company.

While I was at Paris in 1784, which city I have visited many times, to examine medical improvements, *animal magnetism* was in great vogue. Though I had every reason from common sense to suspect this *charletanerie*, I studied the affair with the greatest accuracy, being acquainted with the famous Dr. Franklin, one of the commissioners, appointed by the French King to examine the matter. Several conversations with this philosopher satisfied me, that the whole was imposition. In the *Rapport des Commissaires*, which was presented me in a pamphlet by my esteemed friend, Dr. Franklin, is the following history, as an illustration of magnetic deceptions.

“ Le jour de la cérémonie de la première communion, faite en la paroisse de St. Roeh, l'an 1780. Après l'office du soir, on fit, ainsi qu'il est d'usage, la procession en dehors. A peine les enfans furent ils rentrés à l'église, & rendu à leurs places, qu'une jeune fille se trouva mal, & eut des

ger ; it is more troublesome to the patient, than alarming to the skilful and experienced physician.

2. The *convulsive hysterick passion* is more difficult of cure than the preceding, but rarely ever dangerous. I have known it continue many years, and at last has entirely quitted the patient.

" convulsions. Cette affection se propagea avec une telle rapidité, que dans l'espace d'une demie heure, cinquante ou soixante jeunes filles, de douze a dix neuf ans, tombèrent dans les mêmes convulsions ; c'est à dire, serrrement à la gorge, gonflement à l'estomac, étouffement, le hocoquet & convulsions plus ou moins fortes.

" Ces accidens reparurent a quelques dans le courant de la semaine ; mais le Dimanche suivant, étant assemblées chez les Dames de Sainte Anne, dont l'institution est d'enseigner les jeunes filles, douze retombèrent dans les mêmes convulsions, & il en seroit tombé d'avantage, si on n'eut eu la précaution de renvoyer sur le champ chaque enfant chez ses parens. On fut obligé de multiplier les écoles. En séparant ainsi les enfans, & ne les tenant pas assemblés qu'en petit nombre, trois semaines suffirent pour dissiper entièrement cette affection convulsive épidémique.

" Voyés pour des exemples semblables le naturalisme des convulsions par M. Heequet."

How shocking it is to reflect on the dreadful effects of the animal magnetism arising merely from apprehension ! On numbers have been entailed *convulsive fits*, where none before existed, which may remain through life. These fits were knavishly called *les crises*, but arose from fear or surprise : perhaps a female actress or two were hired for the purpose of mimicking fits and distortions, &c.

Those,

Those, however, who can *curb* and best command the *emotions* of the mind, are most easily cured.

After the disorder has ravaged in the habit, any slight affection of the mind can reproduce the hysterical fit, nor is it always in the power of the patient to avoid being affected; reason and reflection often coming too late for the purpose, and passion predominating with an ungovernable sway.

The art of physic, should not be accused of defect, when the causes of a disease are chiefly resident in the mind, ever ready to burst forth with impetuous violence on the most trivial occasions; yet a judicious medical management, very often changes the natural, accidental, or acquired disposition of the patient. In proportion as the body is advanced from debility to firm strength, so proportionably will the disease decrease, and the mind become more tranquil.

The *stertorose*, or *apoplectic hysterical passion*, is more serious than the former two species, because it indicates compression in the cerebrum, or cerebellum; but this rarely proves fatal; after profoundly sleeping and snoring, the patient gradually recovers: it is most alarming, if the respiration be short and difficult; because it shews, generally, an impeded or obstructed circulation of the blood through the lungs.

The effects of the disorder manifest obstructions in the viscera of the abdomen and thorax; for congestions in the parts, or dilatations and stagnations in the vessels, particularly those that communicate with the *væna portæ*, have been observed by dissections after death.

In the hysterical affections, with difficulty of breathing, the lungs have been found putrid and diseased.

In other cases, the abdominal viscera, particularly the omentum, mesentery, intestines, spleen, pancreas, uterus, ovaria, and the stomach itself, has been forced out of its situation even towards the pubis *.

All

* *Hysteris sex passio hysterica.*

Anatomical Examinations after Death.

Sectiones cadaverum exhibent ovaria mole ampliora, aliove modo labefactata: continent laticem, materiam sebaceam, caseosam, pilos, ossa, &c. ex organis scirrhosis erumpunt, tubercula, hydatides, tumores cystici, &c.

Contaminantur etiam uterus, tubæ fallopianæ, vasa spermatica, cervix uteri.

Ventriculus depulsus, duodenum ampliatum, colon, rectum, infarcta, obstructa; mesenterium, pancreas, aliaque viscera abdominalia, inflammata, scirrhosa, hydatica, purulenta, putrida.

Herniae epiploicæ, pulmones laesi, cor nonnunquam amplissimum, turgidum, cum polyposis concretionibus.

Stagnationes, obstructions in abdomine, pectore & in cerebro.

In the course of above thirty years full practice, I have seized every opportunity to examine human bodies after death; for

All these appearances after death cannot be called causes of the disease, although they are the

far from this source of intelligence, the real causes and effects of diseases are discoverable. This knowledge is the surest to purge the mind of visionary hypotheses, and points out the most rational cure for diseases. In nervous hysterical cases, I have found, more or less, the viscera diseased; and in convulsive cases, the vessels of the brain extremely turgid, or effusions of blood. This last shews the danger of giving *emetics* to nervous people.

*Symptomata.**Extispicia.*

Hysterica multum & gravioribus paroxysmis vexata, cum doloribus acerbissimis & animi defectionibus.

Hysteria, cum ventre tumido respiratione difficili, tussi secca,

— invadit mulierem hæmoptysi obnoxiam & menstrua sufflaminat.

— succedit delirium melancholicum.

— ex improviso enecatur hysterica.

— cum variis abdominis tumoribus hydropem accersit.

— stipatur hypochondriorum intumescentia, febre vespertina.

— epilepsia.

Insultus hysterici cum convolutionibus, tumore indolente

Ventriculus ad hypogastrum delapsus.

Tumores in ovariis & mesenterio.

Pulmones & lien putridi.

Ovaria scirrhosa.

Ut supra.

Tumores in ovariis.

Pulmones tuberculosi, intestina & omentum inflammati, uterus inculpatus.

Pancreas putridum.

Uterus ingens intus materiam purulentam recondit.

the effects of the hysterick passion, and the cause of death; but the preventing such effects should

Symptomata.

uteri oborto fugantur, sed
dein hæmorrhoides pertina-
cissimæ eveniunt & his mors
succedit.

stipantur tumore & Ventriculus ad pubem delap-
dolore in hypogastrio post sus.
partum crescente.

cum dolore stomachi Hernia ciploica, ventriculus
post partum recrudecente. e sede depulsus.

Highmorus, Sylvius, and Sydenham, accuse the stomach, pancreas, mesentery, and vena porta, as the genuine seat of the disease. Carolus Piso, in *Selectioribus Observationibus*, conceives the seat to be in the cerebrum, or in the beginning of the nerves. Hoffman, in the uterus and its vessels, from spasmodic constrictions, after in the nerves about the sacrum and loins; and from sympathy of parts, communicate their effects to the nervous membranes of the medulla of the spine, and gradually from the inferior to all the superior parts. Hoffman. *De malo hysterico.*

Appearances in Bodies after Death.

Mesenterium plurimis glandulis seirrhosis, durissimis & variæ magnitudinis & figuræ obsecsum; vix ob duritatem dis-
cindi poterant. Uterus & ovaria cum tubis, recenti quasi
coagulato lacte turgebant. Blaneardi LV. *observatio anatom.*
pract. rational.

Morgagnus, de sedibus & causis morborum, relates the appearances of a woman after death, whose menses had been suppressed four months, accompanied with violent hysterics and madness.

Venter jecur habuit eo colore quo, elixum est: bilis tamen
qua.

should be the principal object in the treatment of the disorder: it will, however, appear, that phy-

quæ ex ejus vesicula exsudavit, croceo colore vividissimo proxima infecerat intestina. Testes albi, duri, scirrhosi, æquo maiores, & suopte pondere quasi pone uterum tracti. Uterini fundi interior facies, sanguinolento quasi muco non secus oblita yidebatur, ac si menstrua, jam instarent, aut nuperriime fluxissent: præterea in illa ipsa facie ex substantia uteri parvula, & per pauca prominebant tubercula, verrucarum similia.

Another instance of an hysterical woman, remarkably timorous, of a corpulent body, addicted to wine, &c. who had been subject to tremblings and faintings from the most trifling causes. She vomited often, and could bear nothing solid on her stomach. She was at last seized with most grievous hysterical affections, and died within an hour or two. Epist. XLV. 23.

Thorace recluso, sinister pulmo aliquo loco & leviter: dexter autem ferme undique, superiore excepta particula, arctissime ad pleuram adhaerens inventus est per quandam membranam, quæ præter naturam tunicae pulmoni inducta erat. Pulmones ambo cum searemus, duros, & quasi tendineos pluribus offendimus locis; spumoso præterea humore, quasi saliva quadam, passim scatentes.

Pericardium non paucam habuit aquam ex fusco turbidam.

Cordis autem uterque thalamus nigrum sanguinem, & fluidum.

Dexter insuper modicam polyposam concretionem, albam, sed mollem, cui similis altera in pulmonari fuit arteria, plurimo cum sanguine. Hoc turgidissima erat auricula dextera; strigosa autem finistra. Verum huic auriculæ annexus ventriculus, naturali amplior, non unum obtulit animadversione dignum. Namque, ut tendineas omitiam fibrillas quæ inter mitrales valvulas, columnasque ducuntur, visas esse plures quam soleant; certe eæ columnæ erant æquo crassiores, durioresque, ut multo potius tendineæ, quam carnæ, viderentur, sive colo-

physicians have more considered the palliation of symptoms, than the radical cure of this difficult and distressing disease.

The

rem spectares, qui albus erat, sive renixum attenderes quem secanti scapello objiciebant. Præterea in ejusdem ventriculi parietibus hic illic passim quædam occurribant loca in quibus carneæ substantia cordis aut alba, aut ex rubro alba ita erat, ut a primo glandularum quasi quarundam specie imponerent; sed eodem illo peculiari renixu, dissecantibus similem se columnarum ostendit. Vitium hoc carnis cordis, in tendineam natu-ram degenerantis, quo magis ab interiorc vntericuli facie ad exteriorem pergebat, eo fiebat evidenter, pertinacatque exte-rius ad eum quoque locum cui septum cordis respondet. Quin pinguedo ipsa huic visceri imposita non omnis secundum natu-ram se habuit. In posteriore enim facie cordis per duos non parvos secundum longitudinem tractns inæqualis erat, ibidemque ex fusco rubescet. Arteria magna a corde ad curvatu-ram usque propemodum totam, non valde quidem, sed eviden-ter tamen dilatata, prope septum transversum æquo angustior visa est. Incisa, & sanguine, quo non carebat, effuso, osten-dit tota interiore facie a corde ad ramos saltē usque emul-gentes, particulas quasdam albidiōres, & lineas nonnihil ex-tantes: præterea non eo solum quem modo dicebam, tractu, sed & alibi quantum ex dissecctis superioribus quibusdam ejus ramis, cognovimus, intimam tunicam facile adeo a proxima scjungendam, ut levissimam scalpelli frictionem magna ejus frusta scquerentur. In ventre autem hæc videramus. Omen-tum lienem versus retractum. Perturbatos intestinorum fitus. Hæc, colon præcipue, & rectum, aere multum distenta. Mc-senterium quidem, vntericulum, splenem, & jecur, cuius vesicula bile turgebat, sana. Pancras autem, quod ut nonnulla tenuia intestina decliviore præfertim parte rubebat, glandu-losis acinis justo firmioribus, & inter se magis distinctis. Utc-ruin

The hysterical and nervous disorders will be much easier cured when recent, than when they

rūm denique, tubas, & non parvam vaginæ partem, cum ibi sic satis, tum præsertim postridie, ut plus temporis, & diuturnum lumen haberemus e cadavere adempta, diligentius examinantes, hæc adnotavimus. Posteriori fundi uterini faciei exterioris circa medium adnatus erat per brevem pedunculum globulus, nihil magis albedine, forma, & magnitudine referens, quam paryum cerasum immaturum: quem secantes, ex fibroso quidem, sed callosa substantia, confusisque fibrarum ordinibus, factum depiehendimus: cujusmodi alter globulus intra ipsam parietum uteri crassitudinem erat conditus. Mox apertus uteri fundus multo apparuit suberuento muco fœdatus: quo deterso, cum appressis subtus digitis, undique ex fundo quidem; non ex cervice, multoque minus ex vagina; prodeuentes mediocri expressione sanguinas guttas ostendentes; tam displicuit Santorino quod pro certo scire non potuisse, an mulier prope abeffet a menstruis, quam se antea * horum scaturiginem in vagina potius esse, quam in utero, credidisset. Cervicis superiore parte excepta, reliquum longe aliorubore infectum erat, quasi ab inflammatione videlicet, qui ab altero latere magis ad fuscum inclinabat, nec tamen usquam cervicis substantiam alte pervadebat. In tubis quoque mucosus humor fuit; sed albus. Utraque erat acri. per majus orificium immisso, in uterum pervia: nec deerant prope id orificium hydatides. Testium uterque ab inclusis cellulis tumebat; sed alter magis, qui præter magnam, minores quoque plures habuit cellulas, omnes sero plenas, una excepta in quæ pus album fuit. In altero simul cum cellulis, & vesiculis serum continentibus, alias vidimus cellulas intus nigrantes. In utriusque autem superficie oscula animadverteramus, tenuem specillum admittentia: præcipue vero in membranis per quas cum testibus tubæ necuntur.

* Opusc. med. 4. n. .

have continued many years : because in the former the viscera may not be diseased ; but in the latter, affections of the viscera are always to be apprehended.

When the disease has originated in the body, it is easier removed than where the mind has been primarily affected ; because the bodily complaints often yield to the power of medicine ; but the passions of the soul are too often above all skill and remedies. The emotions of the mind cannot be easily suppressed, because they are often *ab origine* in delicate and susceptible constitutions. There may be observed a promptitude in nervous patients to torment themselves on most occasions without any reflection on the injury and shocks they give their tender habits.

The indications for the cure of the hysterical passion and nervous affections may be formed from the *symptoms*, *causes*, and *effects* of those diseases.

The *symptoms* should be palliated, the *causes* removed, and *effects*, such as scirrhosities, congestions, and obstructions of the viscera, prevented.

The treatment is to be considered under two distinct heads ; the palliation of symptoms, and the removal of causes.

The palliation of symptoms is chiefly applicable

cable during the paroxysm or hysterical fit; and this is best determined by its degree of violence.

While the radical cure is attempted, the urgent symptoms are likewise to be mitigated.

The *flatulent* or *windy* hysterical fit is alleviated by fetid and volatile medicines the moment deglutition is possible. Tincture of *affa-fætida* and *spiritus salis volatilis*, or *cornu cervi*, 20 or 30 drops of each in water or valerian tea; a few drops of oil of amber, or *oleum animalē*.

In faintings, the fumes of vinegar, spirit, æthereus, or any volatile spirits, or salts, are to be applied to the nose; burnt feathers, oil of amber, &c.

If these should not succeed in recovering the patient, a clyster is to be injected, composed of some bitter or aloetic purgative, and tincture of *affa-fætida*; not only to empty the *rectum*, but to solicit the inverted peristaltic motion of the intestines to its natural action, and promote the expulsion of the distending air, or wind downwards.

No. 46. Rx. Decoct. com. pro clyster 3vj.

Ol. olivar. 3jss.

Syr. e spin. cerv. 3vj. M. f. enema, statim injiciendum, repetendumque pro re natâ.

No.

No. 47. Rx. Decoct. com. pro clyster ʒvj.

Tinct. sacr. ʒvj.

— assafetid. ʒij.

Ol. olivar. ʒis. f. enema.

No. 48. Rx. Aq. pur. tepid. ʒvj.

Sal. com. ʒvj.

Syr. e. spin. cerv.

Ol. olivar. ȳā ȝj. f. enema.

In the *passio hysterica convulsiva*, or convulsive hysterical passion, the fit must be treated in the foregoing manner : but if the patient be plethoric, or the vessels of the face full, turgid or red, bleeding during the fit will be necessary when the operation can be performed. Bleeding certainly weakens the force of the fit, and shortens its duration ; probably, by diminishing the force of blood ascending to the head during the paroxysm, and rendering the circulation through the internal and external jugulars, vertebral and occipital veins, more free. The former are greatly compressed, by the dilatation of the œsophagus and stricture on the fauces in the fit ; and there have been instances, though very rare, in which an effusion of blood on the *cerebrum* or *cerebellum*, or of serum in the ventricles of the brain, have proved fatal *.

* In my dissections after death I have met with two instances ; though these are sufficient to prove the possibility. In the first, the patient died in strong convulsions, after a violent passion of anger ; in the second, strong convulsions and a stupor succeeded after a violent vomit.

In languid pale habits, with great debility, and especially when the disorder has been of long duration, bleeding in *paroxysmo vel extra paroxysmum* is improper, and sometimes hurtful.

The patient during the convulsions should be placed as erect as possible in a chair, to favor the descent of blood through the veins of the head and neck.

In the *passio hysterica stertorosa*, or hysterical passion, with snoring and stupor similar to apoplexy; bleeding, except in very relaxed patients, should be always prescribed; there is more danger to apprehend, and less to hope in this than in the other species.

Sharp, irritating clysters should be used, No. 46, &c.

Volatile salts or spirits should be applied to the nostrils; blisters to the neck, back, arms, or legs; and finapisms to the feet.

If the patient is able to swallow, evacuations by stool should be procured by active cathartics.

Drinks of all sorts are to be very sparingly admitted, lest the vessels continue distended.

After evacuating the feces, perspiration should be promoted by *camphor*, and the *tartarum antimonii*, or other antimonials, in such small doses, as never to excite nausea; or by the

the *spiritus mindereri* and camphor; or by *sal volatilis ammoniacus*; *nitrum*, and *camphora*, in the more florid and plethoric habits.

These are the general modes of treatment necessary for the three principal species of the hysterical passion during the fit: but they must be varied according to the constitutions of patients, circumstances of cases, and causes from which they originate.

In the first attacks the *lancet* may be used with more freedom than when the disease has continued. More *blood* may be taken from those, where the passion of anger, or extreme quickness of temper, predominate, than in grief, melancholy, anxiety, and despondency.

The indications to obtain a radical cure in these complaints consist,

i. In determining the superabundant air downwards, and directing the inverted peristaltic motion of the intestinal canal to its due and natural condition.

This is produced by gentle laxatives of the bitter and aloetic kind, joined with fetid remedies and carminatives.

By diminishing the quantity of air, and preventing effervescences, or fermentations in the stomach; therefore all vegetables of the green kind, salads, and sweetened food, pease, beans, &c. should be avoided.

Plain lean meats are most proper, and such drinks that occasion no fermentation : small beer, ale, and all liquors, either in a state of fermentation, or likely to produce fermentation, increase the disorder.

The patient's feelings, however, should direct the choice ; and this is easily determined by observing what foods and drinks best agree, or occasion least flatulency.

Spirits and water, check fermentation more than any other liquors ; but they hinder nutrition. Though the generation of a large quantity of air may be very troublesome and injurious, yet a moderate portion is not only useful but necessary.

Old hock and Seltzer water, or other wines of a proper age and water, commonly agree.

The *London porter*, is an excellent liquor for several hysterical patients ; but, then no other drink should be allowed at or after meals.

II. The over distension of the stomach and intestines is generally productive of great relaxation, loss of appetite, indigestion, debility, &c. The stomach should be braced by an abstinence from all relaxing drinks, and spoon foods, which act as fomentations to the already relaxed parts ; and the patient should, when out of the fit, take mild chalybeate, vitriolic

preparations, bitters, and bark. See remedies from No. 2 to No. 10, No. 26 and 27.

There will be found, however, in practice many female patients, particularly those who are slender, or whose fibres and muscles seem rigid and elastic, who cannot bear the slightest tonics or bracers; owing, perhaps, to rigid fibres of the stomach, or having no mucus in the stomach to counteract the sudden effects of bracers on the cardiac nerves: these commonly experience an obstinate constipation.

In such cases aloetics, joined with *cremor tartari*, and very small doses of calomel united with the *aloetica purgantia* in moderate doses, have best succeeded when taken *bis vel ter in septimana*.

An over abundance of fixed air in the intestines has been greatly relieved by *lime water* alone; the air is acid, the lime water its powerful opposite.

III. The imperviousness of the lacteal vessels on the surface of the intestines must be removed: being a principal cause of imperfect nutrition.

The causes are, an accumulation of inspissated mucus, which is best dislodged by aloetics and *cremor tartar*, or by a solution of borax in the *infusum amarum*.

If the lacteal vessels should be impervious, from

from their orifices having lost the power of absorption, being filled with the coagulated chyle in their smallest tubular *villi*, mercurials are to be prescribed; from half a grain to two grains of well-prepared calomel is to be taken twice or thrice in the week; the pilulæ mercuriales, the æthiops mineral, or cinnabar with camphor; the pilula rubra, and other alternatives. But even these preparations must be cautiously administered to nervous patients; because metallic substances of all sorts frequently produce tremors, and debility of the nervous powers.

If the mouths of the lacteals should be impervious from relaxation, or an *atonia*, chalybeates, vitriolic acids, bark, and volatile salts are useful, in conjunction, occasionally, with mercurials, chiefly used as alterants.

The *first* of the preceding causes, in which an adhering inspissated mucus is apprehended, is common to the corpulent.

The *second*, where the chyle coagulates in the tubes, is common to the pale, languid, and debilitated, in whom the arterial actions are diminished, or to the grosser habits, when the oleaginous particles of chyle superabound.

The *third* is owing to causes similar to the foregoing, and the cure should be attempted by the same means.

The *fourth* cause of nutritious chyle not entering the lacteals, is its bad quality from various improper mixtures, and a contraction of the mouths of the *tubuli* on the intestinal surface.

This last case is more difficult to remove than the others, as it requires a better digestion in the stomach, a more pure chyle in the duodenum and small intestines, and a removal of the stricture of the vessels, without which the necessary absorption cannot be readily performed.

This is commonly attendant on patients of a slender habit, tense, rigid fibres, exquisite sensibility, and violent passions. The cure of such can seldom be obtained, because every sudden and momentary emotion of the mind will counteract many months labor of the most profound medical skill. Antispasmodics, deobstruent alteratives, acids, or alcalines, as circumstances and causes occur, are to be recommended; but above all other prescriptions, *tranquillity* of mind.

It may be observed, that fatness or leanness, strength or weakness, sensibility or torpidity, do not so much depend on what foods are received into the stomach, as their proper digestion, absorption, and assimilation with the blood,

blood, joined with the natural structure and form of the body.

Lean people are frequently great eaters, while the corpulent often eat and drink little ; the slender in body more commonly agitate their minds on slight occasions than the corpulent ; because they possess, in general, more sensibility. Digestion, chylification, and sanguification, is easier completed in the former than the latter : but none of those offices are well performed under mental perturbation ; hence a vitiated nutrition. Let any one who has travelled compare the volatile, lively, good-natured French, with the torpid, slow movements of the Dutch, and the extremes of human character, as to levity and dull solidity, may be easily observed.

These extremes in human nature, owing to climate, diet, or education, may be judiciously applied to the practice of medicine to very great advantage : the more torpid habits require the most powerful mercurials and antimonials ; while the irritable and delicate are sometimes much hurt by the gentlest remedies of the mineral class *.

iv. As

* The different nations in Europe all exhibit to the philosophic and inquiring mind an extraordinary variety of genius and character. A lively imagination, quick invention, and a

iv. As the *bile* is always more or less vitiated in nervous, hysterick patients, it becomes absolutely necessary to examine the feces or excrements.

If the evacuated feces be blackish, it demonstrates that the bile has been ill secreted in the liver, retained too long in the gall bladder, or in the duodenum; by which it often loses the necessary qualities for attenuating or mixing the chyle, and its stimulus on the surface of the alimentary canal, for forcing towards the greater intestines the grosser parts of the aliments.

The costiveness from the inert bile is best removed by *aloetics*, *infusum senæ* and *cremor tartari*.

The more powerful cause-removing remedies are washed caloniel, to a quarter or half a grain, every or every other night, joined with three or five grains of some aloetic purgative, as the *pilula rufi*, &c.

refined taste in all the delicacies of life, I have observed, characterise the French; perseverance, patience, and indefatigable slow industry, the Dutch; gravity, solemnity, and manliness, the Flemish and Germans; petulance and irascibility, some of the Italians and Neapolitans, blended with good humor, and a desire to please. The different branches of arts and sciences flourish according to the climate, genius, freedom, laws, and religion of each people.

The

The *infusum amarum* and the *sal diureticus* should be taken two or three times in the day, provided they are not rejected by the stomach.

No. 49. Rx. Merc. dulc. sub. ppt. & lot. gr. vj.

Extract. cathart. Dij. f. pilulæ No. xxiv.
quarum sumat unam omni nocte.

No. 50. Rx. Infus. amar. 3vj.

Julep. e campk. 3ss.
Spt. lavend. c. 3ss.
Sal. diuret. 3ij. f. mistura, de quo capiat coch.
iiij. bis vel ter in die.

This blackish bile very probably generates a great quantity of mephitic air; for no human fluid so soon putrifies as the bile: an injurious air is extricated from human substances verging to a state of putrefaction, in great quantities, as may be observed in the tympanites from visceral putridity; and the bile particularly hastens the corruption of all the human fluids in the yellow malignant fever of the West Indies, ending quickly in death; to many instances of which I have been a spectator, without the power of affording relief, in the advanced stages of the disorder.

It must, then, plainly appear, i. that healthy chyle cannot be expected when the bile is ill

* See my medical advice for the army and navy serving in hot climates.

secreted, and *vitiated* blood is sent to the *liver* from diseased viscera.

2. From the bile being long retained in the gall bladder.

3. From the conveyance of an impure bile through the hepatic duct, so that the mixed bile in the *ductus communis cholidochus* does not enter the *duodenum* in a fit state for producing those proper mixtures; not only dedicated to carry fresh nourishment to the body, but to protude the fecal parts of the aliments through the inferior part of the intestinal canal.

The correction of the vitiated bile includes not only a removal of obstruction in the liver itself; but likewise of infarctions, congestions, obstructions, and retarded circulation of the blood vessels, and of all the abdominal viscera, which send their blood into the *vena portæ*.

To effect such important purposes, three conditions of great magnitude and difficulty present themselves.

1. The removal of schirrofity, tumefaction, or obstruction in the liver or spleen and their dependent vessels.

2. The acquiring a free, easy circulation in the lymphatic, arterial, and venal systems of the viscera, and all their lymphatic glands, whether of the mesentery or other parts.

3. The

3. The changing the vitiated, acrimonious blood to a pure salutary state.

The accomplishing these grand objects may lay the foundation for a *radical* cure of hysterick and nervous complaints ; but doing less is only a *palliation* of the miserable symptoms.

If the powers of nature are not too much debilitated to co-operate with judicious medicine, success may crown medical endeavors : but if the remedies most effectual cannot be administered from *contraindications*, the cure will be very doubtful, and sometimes impossible : *sed nil desperandum, omnia tentanda*, with the utmost circumspection.

The removal of infarctions and schirrofosity in the viscera can alone be expected by metallic preparations used as alteratives. In liver schirrofiosities of hot climates, mercurials used as unguents, or prescribed internally, have cured the complaint. Nervous, irritable, and hysterick patients, however, very seldom can bear mercury alone in the modes usually prescribed ; the doses are generally too large, and tremors, with other complaints, are the consequence of their use.

Though mercurials given in the *large doses*, formerly too much in vogue, may have produced mischief ; yet it does not follow, that
very

very small portions, as alteratives, repeated at proper distances, or combined with some stomachic laxative, will be injurious ; on the contrary, excellent effects are produced.

If mercurials alone be found too stimulating and hurtful to the stomach, yet when united with sulphureous antimonials, their active, irritating particles on the stomach and intestines are obtunded ; they become mild and efficacious.

No. 51. Rx. Pulv. antimon. cum merc. dulc. 3ss.

Pil. gummos. 3ij. M. accurate, f. pilulæ

No. x. quarum sumat unam mane & nocte, superbibendo coch. ij. misturæ sequentis.

No. 52. Rx. Julep. e camph. 3ijs.

Aq. pur. 3iv.

Spt. lavend. c. 3ss. M. f. mistura.

To palliate nervous symptoms while the above remedies are administered,

No. 53. Rx. Tinct. foetid.

Spt. volat. aromat. aa 3j. capiat gtt. xxxx.
vel LX. ex coch. ij. infus. rad. valerian. vel
infus. zingiberis ad libitum.

No. 54. Rx. Sulph. aurat. antimon. gr. x.

Cinnab. antimon. ppt. 3iss tere simul, deinde
adde

Conf. cynosbat. q. s. f. pilulæ No. xxxx. de
quibus capiat iij. mane & nocte.

No.

No. 55. Rx. Pulv. rad. valerian. ʒij.

Julep. e camph. ʒiij.

Aq. pur. ʒiv.

Tinct. stomach. ʒj. M. f. mistura, de quo capiat coch. iij. ter vel quater in die.

No. 56. Rx. Æthiop. min.

Pulv. camphor. ॥ ʒj.

Conf. cynosbat. q. s. f. pilulæ No. xxiv. quarum sumat. iv. mane & nocte.

No. 57. Rx. Julep. e camph. ʒv.

Spt. volat. foetid. ʒiſſ.

— lavend. ʒiſſ.

Aq. pur. ʒiſſ. f. mistura, cuius sumat coch. iij. ad libitum in languore.

No. 58. Rx. Kerm. min. gr. xij.

Merc. dulc. sexies sub. ppt. & lot. gr. vj. tere simul, deinde adde

Pulv. camph. gr. xvj.

Conf. cynosbat. q. s. f. pilulæ No. xxiv. de quibus sumat ij. mane & nocte.

No. 59. Rx. Julep. e mosch.

— e camph. ॥ ʒiv.

Confect. cardiac. ʒij. f. mistura, cuius capiat coch. ij. ter vel quater in die.

These are the most decided remedies in congestions of the abdominal viscera, in diseased lymphatic vessels and glands, and, generally, in all impurities of the blood: but as their preparations, and conjectures or demonstrations of their actions and utility, are investigated in the part of this treatise which contains the management of the cancers of the breasts

breasts and uterus, to those subjects is the reader referred.

In every state of obstruction from relaxation, and an irregular circulation of the blood through the abdominal and visceral vessels, chalybeates perform wonders, after the *fordes* on the surface of the intestines are removed by proper laxatives, with or without the nervous fetid gums, or half a grain of merc. dulc.; their use should be persevered in twice or thrice a week; at the same time chalybeates should be taken with bitters twice or thrice a day, or wine, and some nervine, appeasing, carminative remedy to alleviate the symptoms.

No. 60. Rx. Pil. ruf. $\frac{3}{4}$ ijss.

Merc. dulc. ppt. & lot. gr. iv. M. accurate, f. pilulæ No. xx. quarum sumat unam omni nocte, vel mane & nocte.

No. 61. Rx. Limatur. mart. $\frac{3}{4}$ ss.

Pulv. flor. chamæmel. $\frac{3}{4}$ ij.

— zingib. $\frac{3}{4}$ ij.

Cons. rosar. $\frac{3}{4}$ ij. syr. simp. q. s. f. elect. cuius capiat Q. N. M. ante prandium coenamque, quotidie superbibendo coch. ij. infus. amar,

Fetid and volatile drops may be taken in lowness, or depressions of spirits, or agitations of the mind.

These plans of cure must be persisted in for many

many months, or a radical cure of nervous diseases will never be attained.

The preventing or removing obstructions in the lymphatic vessels or glands require a similar treatment. The lymphatic, or absorbent vessels, can convey *poisons* into the constitution; but they can likewise convey *remedies*. Venereal *miasma*; the bite of a viper, or mad dog; animal putridity, and other destructive matter of the most subtle nature, are conveyed to the blood by means of these vessels *. Mercurials externally applied pursue the same course through the lymphatic vessels and glands to the thoracic duct, and mix with the blood; thus many excellent remedies may be conveyed without disturbing the stomach.

The lymphatics of the abdominal viscera having lost their powers of absorption, an effusion of the coagulated lymph will be the consequence; coagulations of lymph, and tumefactions in the lymphatic glands, will likewise arise from obstructions of lymphatic vessels or glands nearer the thoracic duct. Hence

con-

* These facts are at present but little known except amongst the latest and most learned anatomists. Boerhaave, nor any of his disciples, well understood these subjects; their *pathology* and methods of *cure*, are in many instances strikingly defective: but so tenacious are many at this present time, of the lessons they received early in their youth, that they

congestions in the inferior parts will be formed, scirrhosities and tumors similar to the scrophula externally; and by repeated dissections of diseased persons, who have been long afflicted with hysterical, nervous, and other chronic diseases. I have always found tumors of this nature in the *iliac*, *mesenteric*, or other lymphatic glands. These were, it must be acknowledged, often more the effects of the disease than the cause; but yet, to prevent these congestions and obstructions must certainly be a more rational mode of cure than the common treatment. There is reason to suspect they do or will exist; and to prevent or remove such accumulations, is a more determined and sensible practice, than merely to palliate symptoms. The alleviation of symptoms, particularly by *opiates*, renders the disease sometimes more difficult and incurable.

To prevent or remove these congestions in

they are frequently offended at later discoveries, and offer insolent and unmerited opposition, from no other cause than because they are *new*. For my own part, I have endeavored to apply all the new doctrines to discover the defects of our art, and to make permanent improvements; and am happy in making grateful acknowledgments to Doctors Monro, Hunter, Meckell; to Messrs. Hewson, Hunter, Sheldon, Cruikshanks, surgeons, for their very useful discoveries. I have, I hope, pursued the same subjects not without some success, in applying most modern discoveries to practice.

the

the lymphatic system, mineral alteratives should be judiciously prescribed, and long continued; urgent symptoms should likewise be cautiously mitigated *.

The *pilula rubra*, the æthiops mineralis, cinnabar with valerian, musk or camphor, solutions

* The whole practice to be found in authors for hysterical or nervous complaints, when we except air, exercise, and a few tonics and mineral waters, are chiefly palliative; and it is for this reason cures are frequently not produced. Cordials, as *confectio cardiaca*, *spirits of lavender, myrrh, sagapenum, oponax, &c.*; *fætid gums, assafætida, castor, sagron, volatile spirits and salts, valerian, camphor, foot, animal fætid oils, plasters of galbanum, or assafætida, &c.*, to different parts; *chamomile flowers, elder flowers, carminative seeds, angelica, ginger, wormwood, rue, centaury, orange peel, balm, mint, sage, pennyroyal, rosemary, lavender, birthwort, &c. &c.* Some of these remedies are excellent palliatives, particularly camphor, valerian, assafætida, volatiles, &c. but these last often are too hot. The major part are by no means adequate to remove the disorder, and must have been founded in superstition, or a very superficial knowledge of the powers of remedies, or magnitude and resistance of diseases. Writers, in general, have only copied one another's credulity, and often absurdities.

Emetics are prescribed. Nothing certainly can be more rough, irrational, and hazardous. The peristaltic motion of the intestines is inverted, and its inversion is seconded by the physician contrary to common sense: but besides, very few nervous persons bear vomiting; their sickness or nausea is symptomatic, and the forcing a quantity of blood to the head by the violence of vomiting, to my own knowledge, has proved fatal;

tions of argentum vivum in mucilage of gum arabic, with very small portions of tartarum

fatal; and yet vomits are daily ordered without any reflection on consequences.

Bleeding may in some instances be useful when the disorder is recent, or where plethora abounds.

Nitre is ordered by many writers. Scarcely any very hysterical or nervous person can bear nitre on the stomach. It is a favourite medicine of mine in many cases; but should scarcely ever be prescribed to the nervous: and, if it should be advisable in plethora, great heat, strong pulse, &c. camphor or volatiles should be united with it; in general, however, it disagrees.

Opiates, as laudanum, &c., are extremely improper. Nervous patients are often convulsed, or a *delirium* and *madness* are produced by opium, when there is already an affection on the mind, or an irritation in the brain. There are other objections.

Opium is very useful on many occasions; but it produces costiveness, detains the flatus or wind frequently, retards the circulation of the blood, and may be the cause of various congestions, from its known property of diminishing, not only the moving powers, but the secretions, and, in general, the excretions. In the West Indies, I never saw it succeed in the *locked jaw*. Opium, therefore, though it might palliate in some instances, and is excellent on many occasions, yet it is hazardous. Camphor, valerian, snake root, or *affa-fotida*, are more safe and efficacious. The opinion that opium should be given in large doses, if it irritates in small, is a doctrine replete with danger: I have known it prove fatal.

Steel preparations are in many cases useful, after intestinal obstruction is removed.

Dr. Mead's remedy of valerian and cinnabar is one of the most rational for removing causes.

antimoniale, always prescribed as alteratives, are efficacious remedies.

By such modes of practice, morbid, lymphatic glands, diseased in the mesentery, or other viscera, are cured : caution is necessary, to adapt small doses of mineral alteratives to the individual constitution, and to persevere many months in their use. Impatience never conquered a chronic nor difficult disease ; and flying from one remedy to another with an impetuous restlessness, neither demonstrates penetration, judgement, nor skill in the physician. Plans of cure should be coolly and maturely contemplated, and steadily pursued, unless they disagree ; or all endeavors to eradicate nervous and hysterick diseases must prove abortive.

III. The changing the vitiated blood to a more balsamic and less acrimonious state, consists in the removal of the foregoing obstructions. Afterward, tonics, as bark, steel preparations, chalybeate waters, and whatever can strengthen the relaxed body, will be especially useful.

Air, exercise, and diverting the mind with a variety of amusements, should be strenuously recommended ; to prevent those dreadful apprehensions which arise from bodily indisposition, seizing the soul with something verging on despondency.

The foregoing methods are not necessary in slight, recent, nor accidental cases; but in those inveterate indispositions that have long tormented and resisted the common attempts to cure. Heavy bodies cannot be moved without a force superior to their weight or resistance; nor diseases be conquered but by remedies more effectual than their morbid opposing powers.

iv. In recent, nervous, and hysterical affections, cures are frequently obtained by palliating the symptoms, and bracing the relaxed habit.

These modes of cure are applicable to cases in which general relaxation presents itself; for by great debility, the secretory and excretory organs have all their powers diminished; the least bodily or mental efforts produce languor and faintness, and the patients feel sensations, as though they were hourly expiring.

In such circumstances of morbid distress the following prescriptions have well succeeded.

No. 62. Rx. Pil. gummos. 3j.

— Ruf. 3ss. M. accurate, f. pilulae No. xxx.
quarum sumat unam mane & nocte.

No. 63. Rx. Pulv. flor. chamæmel. 3ij.

Colcoth. vitriol. benè pulv. 3vj.

Pulv. zingib. 3ij.

Conf. rosar. 3ij. fyr. croc. q. s. f. elect. cuius
sapiat Q. N. M. ante prandium & cœnām quo-
tidie

tidie superbibendo coch ij. infus flor. chamæmel.

Or the electuary, No. 61, is excellent for removing debility.

No. 64. Rx. Gum. assafætid. 3ij. solv. in julep. e camph.

3v. deinde adde

Aq. pur. 3ij.

Tinct. stomach. 3j.

Sal. c. c. 3fs. f. mistura de qua capiat coch. ij.
in languoribus ter vel quater in die.

No. 65. Rx. Tinct. flor. mart. gtt. xxx. vel 3j.

Aq. pur.

— cinnamon. ten. aa 3j. f. haustus. mane meridie & vespere sumendus.

No. 66. Rx. Extract. flor. chamæmel. 3j.

Sal. mart. gr. x. M. f. pilulæ, No. xx.
quarum sumat iij. ante prandium & cœnam.

No. 67. Rx. Spirit. lavend. c.

— volat. foetid. aa 3j. M. cuius capiat gtt.
lx. ex coch. ij. infus. rad. valerian. & zingiberis,
languore molesto, vel spiritu defœtu.

No. 68. Rx. Pulv. cort. Peruv. gr. xv.

— rad. valerian. 3fs.

Aq. pur 3xiv.

Tinct. amar. 3ij. f. haustus, bis vel ter in die
sumendus.

No. 69. Rx. Liquor. anodyn. Hoffm.

Sp. lavend. comp. aa 3j. M. cuius capiat 3j.
ad libitum in coch. ij aquæ, vel aquæ menth.
pip. simp.

No. 70. Rx. Pulv. rad. valerian. 3ij.

Decoct. cort. Peruv. 3vij.

Tinct. serpent. virg. 3j. f. mistura, cuius capiat coch. ij. ter vel quater in die.

No. 71. Rx. Pil. gummos. 3ss.

— ex colocynth. simp. 3ss. f. pilulae, No. xxx. sumat unam mane & nocte.

No. 72. Rx. Decoct. cort. Peruv. 3vij.

Extract. ejusdem. 3j.

Tinct. stomach. 3vij.

Elix. vitriol. acid. 3j. M. f. mistura, de qua capiat coch. iij. ter in die.

No. 73. Rx. Tinct. fuligin.

— aromat. aa 3j. M. cuius capiat gtt. lxxx. ter vel quater in die ex coch. ij. infus. rad. valerian. in languoribus spiritusve defectu.

The preceding forms of prescriptions indicate their curative intentions; which are, the removal of congestions, or obstructions; the mitigation of all the grievous symptoms, and invigorating to the relaxed and debilitated habit. These methods, however judicious, will prove fruitless in many instances, unless the patients will be determined to suppress all violent emotions of the mind.

Hysteric affections arising from various causes, as the chlorosis, fluor albus, a retention or immoderate flow of the menses, or other diseases, or passions of mind, should be treated according to the circumstances of cases and habits of patients. Primary causes being removed, effects of course will cease.

On the Diet of nervous Persons, &c.

Debility, or delicacy of body, and susceptibility of mind, are the principal causes of these disorders. The diet most likely to strengthen the weakened habit is of that nutritious kind, which is digested and assimilated with least labor to the stomach, or intestines.

Flatulency is produced by all vegetables, as greens, salads, &c. and leguminous food, such as peas, beans, &c. and many fruits; these, in general, should be sparingly allowed, or altogether avoided.

Animal food affords the best nourishment; therefore meats of all sorts, easy of digestion, are preferable to any other aliments. Low diet will never strengthen the debilitated; but the stomachs and constitutions of individuals ought always to be principally consulted.

Gelatinous substances, as jellies of hartshorn, isinglass, calves feet, &c. must not be too freely allowed, as they with difficulty pass through the lacteal system of nervous patients. Strong gravy, broths of lean meat, or beef tea, in small quantities, with toasted wheaten bread, is easily digested, and received into the constitution, affords most nourishment to the body, and produces a compacter coherence in the relaxed system.

Punch, lemonade, and most vegetable acids, are improper.

Tea should be very sparingly used, or rather avoided, as it relaxes the coats of the weakened stomach. Coffee and chocolate are better, provided they agree.

Porter with ginger, or a glass of red port, are beneficial; but all flatulent ales, small beer, or whatever is found to generate wind, should be strictly abstained from.

A clear, dry air is preferable to moist. Where electricity most abounds, the animal spirits are most lively; where it is most diminished by moisture, a phlegmatic dulness, or languid spirits, may be observed. The country is better than town air.

Exercise and amusements are efficacious remedies; for whatever can gently agitate the body, and divert the mind from the present distress, or future apprehensions, will alleviate the dismal effects of the disorder.

Sleep should be indulged, but scarcely ever solicited by opiates.

When restlessness arises from indigestion, very light suppers are necessary, and a small portion of spirit and water may be used to check fermentation.

All secretions and excretions should be gently

ly promoted, as the circulation of the blood will then be more regular.

The retention of feces, urine, or perspiratory fluids, are always productive of depraved humors.

The mind should be preserved, as much as possible, in a state of tranquillity ; very trifling causes irritate the nervous, and excite emotions not easily subdued.

The nervous and hysterick are accused of peevishness and irascibility ; but this apparent violence is more caused by the miserable state and sensations in the body, than any predetermined malignity of the mind, and therefore merit compassion and indulgence. The melancholic should be roused by amusements and proper exercise ; the irritable and overactive should be calmed by rest and cool reflection.

Practical Cautions, Admonitions, and Observations.

Nervous diseases frequently assume the appearances of almost every disorder incident to the human body ; in the head and stomach, breast and sides, are pains ; in the bowels, cholicky complaints, and flatulent gripes ; in the kidneys and bladder, acute affections like the

gravel and stone; but caution is necessary in their treatment.

If nervous affections be mistaken for acute inflammatory diseases, and profuse evacuations by bleeding, purging, and cooling, are used, dangerous consequences will succeed to such an imprudent practice.

Vomits are often prescribed to nervous patients, which is too violent a method; the nausea, or sickness, is commonly *symptomatic*, and no judicious physician would apply so coarse a remedy as vomiting to a delicate feeble constitution, when the stomach is secondarily in fault; but he would rather attempt to remove the primary causes by lenient means.

3^o In those complaints denominated *bilious*, which term seems of a vague and unsettled signification, vomits are universally prescribed at random; but nothing certainly can be more improper or dangerous.

An accumulation of bile in the stomach, causing great sickness, headach, &c. may be termed a *bilious disorder*; it is more known in hot than in European climates, and vomits are the usual remedy.

The administration of vomits in such cases originated in the times of ignorance; but custom and fashion have still erroneously continued their use to the present period, notwithstanding the

the modern knowledge in anatomy and physiology is directly against such a practice. Innumerable other instances might be adduced, where the principles of practical medicine have by no means held pace with the many useful and important discoveries of the moderns in anatomy, chemistry, and physiology.

Bile is never in the stomach naturally, nor was it ever destined, according to the laws of the animal economy, to be an inhabitant of the stomach.

It is poured by the biliary ducts into the *duodenum*, or first of the small intestines, where it unites with the oleaginous and aqueous particles of the digested food descending from the stomach.

Its purging, cathartic, or stimulating qualities, assist the descent and exclusion of the grosser parts of the food.

The *bile*, therefore, has *no office* or function to perform in the stomach; nor is ever there but in a state of disease, occasioning great sickness.

By an overabundance of bile irritating the *duodenum*, or from other causes, especially nausea, the bile is forced into the stomach by the inversion of the peristaltic motion of the *duodenum* and *pylorus*; in short, by those parts forcing the

the bile upwards, instead of pursuing its natural course downwards.

The bile, then, being forced by this inverted action of the *duodenum* and *pylorus* into the stomach, causes nausea, sickness, or vomiting. If the flow of the bile upwards be prevented, all those symptoms, and the supposed necessity of throwing the *bile* off the stomach, would be unnecessary.

Vomits bring the *bile* upwards into the stomach, and cause an increase of the bilious disease; conveying the bile downwards, then, by gentle laxatives, is the most rational and safe prevention and cure for bilious accumulations in the intestines. *Bile* and other matter is brought to the stomach by *vomits*; but ignorance supposes, what is thrown off was the *cause* of the irritation, whereas it is the mere *effect* of vomiting.

Vomits certainly give temporary ease, but lay the foundation for future indisposition: instances there may be in which they are necessary, but they certainly should as much as possible be avoided, for they always promote the ascension of the bile, and cause a *future* necessity of vomiting.

Gentle aloetics, with soap, or other laxatives, not only prevent the retention of bile in the intestine,

testine, but generally exclude it through the inferior intestinal canal.

Vomiting is violent, the laxative plan gentle; neither reason nor experience can justify rough practices, when *mild* methods can answer every medical intention.

It is impossible to know what injuries vomits may produce, by forcing a quantity of blood to the *brain*; this has proved destructive in many instances, and the stomach has been forced out of its seat by this violent vomiting action *.

* A young man, named Bowles, in St. James's street, was seized with a violent vomiting: Mr. Gent, surgeon, of St. James's street, was called, and afterwards I was consulted, and prescribed antiemetics and gentle stomachic laxatives, and motions were procured. The patient raised himself from his bed, seemingly in good spirits, and had not been in an *erect* posture one minute before he died.

I opened the body in the presence of *Mr. Gent*, and *Mr. Tronson*, of *Harley street*, and found the stomach had forced itself into the chest, pushing the lobe of the lungs on the side it occupied to the superior part of the cavity of the thorax. In the stomach was contained about a pint and half of liquid of a darkish colour, but not fetid; the remainder of the cavity of the stomach was inflated with wind. It appeared clear to me, why the young man died suddenly in an *erect* position; for the stomach not descending into the abdomen, but laying on the *diaphragm*, respiration was totally impeded by the heavy pressure of the stomach; from hence syncope and death.—Here is an instance in which vomiting forced the stomach out of its place, and proved fatal suddenly.

Vomits,

Vomits, therefore, to all delicate, nervous, or bilious patients, should be cautiously prescribed, or rather wholly omitted.

4. In the *convulsive* hysterick passion, *bleeding*, in general, is necessary, particularly in young plethoric patients. In the pallid, languid, and debilitated, it should certainly be omitted.

5. Palpitations of the heart, a difficulty of breathing, and acute pains in the chest, may sometimes require bleeding: but the milder remedies ought first to be administered; as volatile liniments, with *oleum anisi*, or *oleum terebinthinae aetheriale*. Similar applications have availed in flatulency, when rubbed on the abdomen:

Internally; likewise, the *oleum anisi* to forty drops, with *tinctura rheii*, or such stomachic laxatives, have successfully expelled wind, when other remedies were not sufficiently warm nor stimulating for the purpose.

6. Amongst the palliatives, camphor, valerian, *oleum animale*, and castor, are less heating than the fetid gums. In fever and heat, or in a plethora, where red particles of blood much abound, the former are preferable to the latter.

In the hysterick fit approaching nearest to the apoplexy, *bleeding* is absolutely necessary in all patients,

patients, except the old, pallid, dropsical, gouty; and extremely debilitated.

The *pulse*, as too *low*, *weak*, and almost *imperceptible*, is a fallacious guide; the *lower* the pulse, the *greater* necessity for bleeding. No learned man would depend on the pulse, but be governed entirely by the other evident symptoms. The low and nearly imperceptible pulse shew the height of *obstruction* in the heart, vessels of the lungs, or a *compression* of the *cerebellum*.

Bleeding in the *occipital* or *jugular veins*, or in the *temporal artery*, are most eligible, because they immediately empty the blood from the part affected, namely, the brain, and the *turgid* face, and secures the patient, above all other means, from the danger and *sudden* fatality of the apoplexy. Not a moment should be lost; for loss of time in bleeding is the certain loss of life.

Since the discovery of the circulation of the blood, a dangerous prejudice has prevailed against *local* or *elective* bleedings.

The chief argument against local bleeding is, that in the course of an *hour* or *two*, let the blood be taken from whatever part of the body; the effect will be the same, as though it were taken from the vein situated nearest the disease: but many diseases, according to my reasoning; are too rapid to wait an hour or two; as *con-*

cussions;

cussions, or compressions on the brain, fractures of the scull, convulsions, apoplexy, epilepsy, &c. &c.

The reasoning against *local bleedings* appears very plausible; and it may be true, that in the course of two hours circulation, the whole habit may sensibly feel the loss of one or two pounds of blood taken from the arm, or any part.

Apoplectic attacks, however, are too *rude* and *sudden*, to wait an *hour* or *two* for this *gradual* depletion. The blood is forced from the heart, with *resistless violence*, to the head, through the carotids, by which all the vessels in the membranes of both *dura* and *pia mater*, and the whole substance of the brain, are *turgid* and *distended* with blood.

If the veins do not carry, with *equal celebrity*, the blood back, thus forced into the arteries of the brain, some of the small capillary arteries burst, the blood pours out, and death may immediately ensue.

In a disorder so fatally rapid, and where death is produced by a sudden and over distension of blood, would any reasonable person hesitate at electing the most effectual and *immediate* remedy, in preference to that which is *dubious* and *slow* in its operation?

The rupture of the over-charged blood vessels

vessels in the membranes of the brain is to be apprehended, and death is the consequence : the emptying these vessels with more rapidity by the temporal artery, the jugular, or occipital veins, is the most rational cure. The practice is decided ; and it has often, to my knowledge, preserved life in numerous cases of the most dangerous apoplexy : at all hazard, in desperate cases, blood by a large orifice must be evacuated; if not from those afore-mentioned vessels, by the veins of the arm, &c.

Let it be acknowledged, that bleeding in the arm might in an hour or two, or sooner, empty these distended vessels of the brain : but the patient is often *dead in a few minutes*; the disease does not wait the slow progress, nor tardy effects of a remote bleeding. Remedies should ever hold pace with the rapidity of the disease.

To illustrate this subject more clearly ; let it be supposed that a man had fallen into a large reservoir of water, and was in immediate danger of being suffocated, or drowned.

To save life, emptying the reservoir was immediately necessary : but for this purpose two methods presented themselves ; the one by pulling out a large plug from the reservoir itself ; the other, by running a mile to turn a cock fixed

fixed at the end of a long communicating tube. In the former, by the sudden discharge of the water, death is prevented; in the latter, by delay it is inevitable. Which measure would common sense, or humanity, pursue, under such a circumstance of pressing and immediate danger?

The communicating small tube at a mile distance would in time certainly empty the reservoir, but not soon enough to save a human life; nor will emptying a blood vessel remote from the brain, rationally answer the alarming and rapid exigency of an apoplectic case.

A much speedier method presents itself. A few drops of blood from the nose in the *phrenitis*, or *delirium*, has instantaneously recovered the patient's senses, when cupping, bleeding, or leeches have proved ineffectual.

A prejudiced and unexamined opinion, dangerous error, and pertinacious obstinacy, defend bleeding in a remote vein, or even solemnly forbid the operation in most apoplectic cases; while the practice of bleeding in the temporal artery, the *jugular*, or occipital veins, has anatomy, physiology, pathology, successful experience, and common sense for its support*.

If

* Neither the temporal artery, nor external jugulars, immediately communicate with the cerebrum and cerebellum,

but

If the banks of a river were overflowing, and threatening devastation to the neighbouring country, would a prudent man lose time in running to a distant sluice to remove the danger; when a sluice was near, capable of carrying off the water immediately? Or would any one employ a snail, instead of a fleet horse, on any occasion which required expedition? There are several cases in physic that require a quick, penetrating discernment, and rapid execution, in which the tardy determinations of solemn dulness, or slow stupidity, would most assuredly fail.

In the sanguineous apoplexy, during the first force of the paroxysm, sudden death is to be apprehended; there is no other alternative, than to bleed immediately; should an effusion of blood in the brain even happen, sleepy symptoms, cold sweats, or stupor, and death, succeed: the physician is conscious of having performed his duty, and this to every feeling mind is an infinite satisfaction.

The principal symptoms which determine the necessity of bleeding are plethora, a turgency of the vessels of the face, *tunica conjunctiva* of the eyes; inflation, redness, or livid-

but they are nearest, and empty immediately the distended vessels of the face, eyes, &c. and prevent stagnations in the veins.

I • ness

ness of the face ; difficult and stertorous respiration ; floridity and distension of the vessels in the lips ; and the operation should be performed promptly ; for the blood once coagulating in the veins, all hopes of restoring life are at an end *.

There

* I have opened several apoplectic cases after death, and always found effusions of blood in different parts of the brain, or its ventricles, &c. ; and these appearances, which cannot be disputed, determined me to recommend and practise bleeding in the jugular, &c.

About sixteen or seventeen years ago, I was called to a person who appeared dead from an apoplectic stroke. There were two practitioners in the surgery line before I arrived, they had attempted bleeding in both arms without success, and considered the patient as dead, or past all hopes of recovery. Perceiving a lancet in the mouth of one of the surgeons, I snatched it, and made a large orifice in the jugular vein, against the united voice and clamor of the relations, who supposed their friend's throat cut ; blood immediately issued forth, and in two or three minutes both the veins in the arms began to bleed. During the loss of two or three pounds of blood, the patient began to sneeze, and faintly breathe, and, in short, soon after recovered. This gentleman lodged at that time at a Mr. Shield's, shoemaker, in the middle of New Street, Covent Garden ; he lived many years after, and, perhaps, is alive at this time.

Another gentleman, well known in the great world, had frequent apoplectic attacks ; the blood used to force up through the carotids with an amazing pulsatory violence ; the face was first red, then blackish. I happened to be in the house three several times, and always saved him by taking away an immense quantity of blood. After the operation he dozed, and

gra.

There are, however, two distinct species of apoplexy to be accurately distinguished from the natural constitution, or patient's health.

The *sanguineous*, happening to the more florid, robust, plethoric, and corpulent ; the other, the *pituitous*, is common to the pale, gouty, and exhausted. The prognostics of both are nearly the same as to danger, but the treatment should be different ; for the former requires a profuse, the latter a smaller venefection. These methods of cure should be adapted more to the exigence of the case, habits, ways of life, and peculiar individual circumstances of the patient, than to those fallacious guides, general symptoms ; which constitute, indeed, the definition or character of a disease, but rarely point out the various individual, or best curative intentions.

6. Before physicians prescribe for nervous, hysterical patients, the length of time the disorder has ravaged in the constitution should be considered ; the methods of cure already

gradually the next day recovered. He knew very little of his dangerous situation.

A servant who had lived formerly with this very gentleman, and lives with Lady W—, near my house, in Harley Street, had an apoplectic attack, and appeared dead. I directed Mr. Humpage, of Cavendish Street, Cavendish Square, to bleed profusely, which restored the man immediately.

Profuse purging, antimonial diaphoretics, volatiles, sinapisms, and blisters, are likewise necessary.

adopted, and their effects : it is absurd to repeat, what has already failed.

a. In recent and accidental attacks, when there is no reason to conclude the viscera in a diseased state, light stomachic laxatives and antispasmodics will often succeed.

b. When the nervous affection has been of longer duration, or when it is more owing to delicacy of body; and exquisite sensibility of mind, than to any accidental causes, the antispasmodics will not only be necessary, but tonics, or strengthening medicines ; such as bark, steel, vitriolic preparations, abstinence from watery diet, as tea, &c. and an indulgence, according to the strength of the stomach, in the most nutritious animal food.

c. When the nervous disorder has continued many months or years, and it may be justly concluded, that neither antispasmodics nor corroborants will prove serviceable, owing to the *viscera* being too *deeply* diseased ; then a long course of mild alteratives should be instituted, and long continued ; while the most urgent symptoms should be alleviated with palliating antispasmodics.

There are few nervous cases, unless the *viscera* be very *unsafe*, that will not yield to one of the antecedent modes of treatment ; this, abun-

abundance of practical experience has amply proved.

The alteratives which have most succeeded are from No. 51 to 59 of the prescriptions, and likewise the following :

No. 74. Rx. Sulph. aurat. ant. 3ij.

Merc. dulc. sexies sub. ppt. & loti 3j. tere simul in mortario vitro per viij. horas f. pulvis.

Rx. Hujus pulver. 3j.

Conf. rosar. q. s. f. pilulæ No. xx. quarum sumat unam mane & nocte superbibendo coch. ij. misturæ sequentis.

No. 75. Rx. Tart. antimonial. gr. j. solve in

Aq. pur. 3j.

Rx. Hujus solutionis 3fs.

Julep. e camph. 3vifs.

Tinct. valerian 3j. M.

Or,

No. 76. Rx. Cinnab. antimoni, ppt. 3vj.

Pulv. e tragacanth. comp. 3ij. M. f. pulvis dividendus in xx. doses, quarum capiat unam ter de die in coch. ij. julep. e camphora.

Or,

No. 77. Rx. Æthiop. min. 3ij. syr. balsam. q. s. f. pilulæ

No. xxiv. quorum sumat iv. bis vel ter de die superbibendo coch. ij. misturæ, No. 62.

Many other prescriptions may be invented, as cause-removing remedies.

Costiveness during the administration of these, and all other remedies, should be prevented,

not by salts, but stomachic laxatives * ; the alteratives require to be continued many months, nay, sometimes years, before a radical cure can be effected †.

7. There is nothing more erroneous than the assertion, that mental perturbation cannot be relieved by the art of medicine. A number of diseases, not perfectly curable, can be mitigated; the art extends no farther: but to deny relief because we cannot effect a radical cure, is inhuman. Mental affections are often relieved by a compassionate and sincere sympathy in affliction, by fetid, antispasmodic remedies, air, exercises, and diverting the mind from the depressing objects. It is the office of medicine to unite these endeavors, and all others, that can rationally alleviate human mis-

* Some physicians even of eminence prescribe *salts*, as though we had no other laxative. Salts are more proper for the athletic, robust and florid, and in inflammatory fevers, than for pale, nervous, and relaxed patients.

† One very remarkable case of a lady, a patient of Mr. Hogarth's, Swallow Street, who had laboured under all the miserable nervous symptoms ever experienced for above fifteen years, and who had travelled all over Europe to obtain advice of the first physicians, and who went to most of the water-drinking places; but all without any good effect. I being consulted, concluded the failure to be owing to diseased viscera, and immediately pursued an alterative course, which was continued several years. The lady obtained the most perfect health, which at present she happily enjoys.

sery, even where no positive cure can be expected.

8. Air, exercise on foot and horseback, or in a coach, according to circumstances and seasons, amusements, and diversions, greatly contribute to assist the operation of medicine, and should never in nervous hysterical diseases be omitted.

9. All distressing objects, all melancholy stories, should be concealed from the nervous and susceptible; their tender frame is agitated by the merest trifles from sympathy. The effects of sympathy are astonishing. The most amiable and philanthropic minds, shocking to reflect! are most punished through life; while the unfeeling and worthless scarcely ever experience sympathetic concern. A great part of the miseries of the nervous are certainly imaginary; present sorrow, future apprehensions, occupy the mind with an uncontrolled sway. The disorder to the afflicted is as real as any other the human body is subject to, and equally merits a sedulous attention, and humane compassion.

A recent instance of the effects of sympathy has appeared in the public prints; which shews the surprising power of imagination from sudden horror, in producing convulsive, or epileptic fits, and their easy communication from one

female to another, similar to those already mentioned *.

It appears, the same effects have been produced

* There is no occasion to credit mysterious and concealed, or false causes, promulgated by knaves and jugglers; for every experienced practitioner in medicine must have seen numerous instances in families, where the lady's hysterick complaints have been communicated, or transferred to a female attendant; this again has communicated the faintings, fits, &c. to other females in the kitchen, who have been susceptible, timid, and compassionate! Such attacks originate in the mind being affected with terror, surprise, or some frightful impression, and the fits often continue through life; which by every day's practice in this great town is fully proved, without pretended *magnetic* powers, &c. How are these effects produced? People are agitated, walk, and prophesy in their sleep; give divine answers to earthly questions, fall into strong convulsions, foam at the mouth. I answer; by ignorance and credulity people persuade themselves of any impossibility: in all ages it has been the same, from times most ancient. *Lucian* had his false prophet, who deluded the Emperor and all Rome. Brussels boasts of the man who brought all the world together to see him walk, in imitation of Our Savior, on the water. The bottle conjuror, the Cock-larie ghost, the oyster which walked when asleep, are all recent in every one's memory. Learning and good sense condemned these follies with reason and ridicule: but credulity and ignorance bore down, like a torrent, every sober reflection before them. While the rage and folly lasted, mankind were deaf to the voice of truth; and nothing but the experience of being *duped*, which few like to acknowledge, brought them to their sober senses again; then the mysteries drop, and the impostors are despised, until some new imposition appears.

duced in different countries: amongst the volatile and cheerful French; amongst the cold, phleg-

Hoffman and the German writers have faith in persons being possessed by the devil, and have written grave, medical treatises on the subject. The power of witchcraft is chased away from this and other countries by the lights of philosophy, very lately. The superstitions of ghosts, apparitions, hob-goblins, and departed spirits re-appearing, still are believed by vulgar minds. *Ridicula superstition!*

Extract of a Letter from Preston, Lancashire, March 8, 1787.

“ The manufacturers employed by Messrs. Pedders and Emett, in their spinning works, at Hodder bridge, near this town, were lately much alarmed by an uncommon distemper breaking out, and spreading amongst them with great rapidity.

“ Upon Wednesday, February the 14th, a healthy young woman dropped down suddenly in strong convulsions, and remained in that situation near twenty-four hours, with only a few slight intervals of about ten minutes each. After this time the convulsions returned for several days, in fits of a quarter of an hour, and of four hours continuance, but with much longer intervals. Upon the Friday following, another person, who had worked with this woman, was also affected in the same manner; upon Saturday, eight more; upon Sunday, six; and upon Monday, four.

“ The patients had little or no warning of the approach of the fits, but fell down speechless, and remained perfectly delirious during their continuance, with the body bent backwards; and so powerfully convulsed, that five or six people were scarcely sufficient to prevent a young girl from biting or tearing herself, or dashing her head against the walls or floor. Upon Sunday, the terrors of these people, and all around them,

phlegmatic Dutch, who are surrounded with large swamps, canals, and the stupifying fumes
of

them, were increased to the highest pitch, by the spreading of the complaint; and still more, by the ineffectacy of all the means yet tried for their recovery, and the dreadful idea, that their disease was the plague, or some similar infection introduced by the cotton.

" A physician of this place being consulted, discovered that the disease was entirely nervous; that the person first affected had been thrown into that situation by the wanton application of a living mouse to her cheek, an animal which had always excited in her a kind of horror; and that the rest, who were chiefly young women, had been affected merely by a kind of sympathetic contagion. The application of electricity, of nervous medicines, but, above all, the separation of the patients, and the quieting of their apprehensions, by assurances of speedy recovery, soon put a stop to the progress of the disorder, and effected a cure: insomuch, that they are all at work again, and have had no return of the complaint since."

The above is a striking instance of the powerful influence of fear, and other passions of the mind, upon the body, well known, indeed, to gentlemen of the faculty, but scarcely credible to those who have not had opportunities of observing their effects.

Such histories should guard mankind from suffering children, but girls in particular, from the sight of all objects that can produce such effects; for epileptic fits, and even loss-of-senses, have been the consequence for life. One of the *magnetic amusers* has persuaded a credulous, nervous young man, that he can by magnetism render his hand as transparent as glass, and no arguments can operate so as to make him believe the contrary.

" *Fools are the game which knaves pursue.*" Any impudent

of tobacco ; amongst the English, likewise, the same phenomena have appeared. The sudden force of imagination at terrible sights, then, of persons apparently dead, in fits, or convulsed, have produced similar effects, which naturally arose from timidity, have been infamously by the *magnetic* impostors called *les crises* ; and they have impudently asserted, in France and elsewhere, that some unperceived, undiscovered *magnetic fluid* produced these strong symptoms ; whereas they arose from weak, credulous minds, abounding in fear, and put in ac-

dent pretender, who can bring his mind to act an infamous part, has only to be determined to conclude all mankind fools : let a bait be hung out, the more improbable the better, and folly will always enlist under his standard. A man who was groom to a riding master in this town, turned urine doctor, and has succeeded to admiration, by having an artificial *worm* put into a bottle of spirits, by which stood a miserable-looking meagre Frenchman, pretending that the Doctor had brought the worm away from him. This was scarcely ever suspected, till the *Doctor* and *Worm manufacturer* quarrelled, and then the roguery was exposed. Thousands of these deceptions have ever been practised ; and they must ever succeed in large cities, where fresh fools always arrive. People do not know, that the powers of the mind are often so weakened by the diseases of the body, that men appear to penetrating observers, quite different persons in health, or when under disease. Hope and fear are the grand movers of the human mind ; deceivers study how to apply properly to them both ; and they succeed.

tion

tion by sudden surprise, or tedious, pre-alarmed expectation.

On several nervous Symptoms.

Nervous people are, by the nature of the disease, fickle, giddy, inconstant, diffident, and impatient, and often become their own enemies, by flying from skill and sincerity to any ignorant pretender of medicine. They often attribute their miserable symptoms to the remedies given. They should be told, the difficulty of curing this disease, and the necessity of a steady adherence to what is prescribed; for they often do irreparable evil by changing their physicians. If in any part of medicine the proverb of "*sine fide nulla salus,*" can be applied, it is to the nervous. Where there is no faith, there is no cure.

The innumerable symptoms afflicting the nervous and hysterical patients arise chiefly from sympathy. The nervous consent of parts is truly wonderful, and extremely curious; but can be demonstrated by dissecting for the nerves, and particularly the *par vagum* and intercostal; their ganglions and connections. Those who assert medicine is in the dark with regard to nervous diseases, are deceived, and betray an inexcusable ignorance of the extent of the art; they are easily accounted for, though their cure may

may prove difficult. There is through the whole human frame a surprising nervous consent and sympathy. A scratch in the feet, hands, or wrists, I have seen produce, in the West Indies, that horrid, fatal disorder, the *locked jaw*. Hippocrates said very justly of the human body, "that there was one conflux, one conspiracy, and, that all the parts consented."

Galen supposed all hysterick complaints to arise from a retention of the *semen*; he ingeniously and plausibly accounts for sympathy by the property of the *magnet* attracting iron, though they be not in immediate contact.

The medical philosophy of the ancients was, in general, assertions without proofs; ingenious reasonings without demonstrations, or conclusive experiments. I, who have waded through the massy volumes with unremitting ardor many years, am thoroughly convinced, if the major part of the ancients were destroyed, nothing would be lost to the republic of letters. An inquiry into the ancients, and the progress of science, are curious; but the important discoveries and ocular demonstrations of the moderns are infinitely more useful*.

Nei-

* Whoever wishes to see a full account of ancient medical learning, may consult my *Historia* and *Schola Medicinæ*, in which

Neither much reading, classical learning, nor meditation, forms the complete practical physician, without a happy *genius* to direct judiciously the application of medicines from vegetables, minerals, chemicals, and a proper use of the nonnaturals.

The hysterick symptoms may be arranged under the classes of natural, vital, and animal functions, their several causes, and general remedies.

A dry Skin.

If arising from debility in the minute arterial system, it is best removed by tonics; if from obstructed pores, by the retention of the perspirable matter, by antimonial, and other diaphoretics, tepid water or dry vapor baths; if from the loss of the contractile arterial powers, similar to palsy, by volatiles, stimulating liniments, blisters, and frictions; which last remedy is very useful in all cases of impeded perspiration. The pores of the skin are so minute, that a grain of sand, according to Leuwenhoek's calculation, will cover 125,000 of the perspiring pores. According to Sanctarius, out of eight pounds of food, five pass off by perspiration: this, however, is very diffi-

which the whole is arranged in so concise a manner, as to be comprehended with very little labor.

cult

cult to ascertain, as it varies in all people, and in all climates *.

If a dry skin should arise from profuse evacuations of urine, alvine feces, or the menses, these require checking by vitriolic acids, astringents, or tonics.

Profuse Sweating, or increased Perspiration.

Profuse sweating is commonly a sign of great debility. It is attendant on consumptive diseases and hectic fevers; therefore, unless the cause can be removed, which is frequently impossible, the increased and weakening perspirations cannot be checked without danger of purgings, increased fever, or difficult breathing.

When acrimony in the perspirable matter is the cause, cinnabarine alteratives and correctors of the prevailing acrimony, and inspissating the blood, are useful.

If from laxity of the pores, and too large a portion of serum, corroborants, abstinence from weak liquids, and preparations which strengthen the relaxed fibres, are necessary, bark, steel, vitriolic preparations, &c.

* Gorter, in Holland, makes forty-six to fifty-six ounces; Keill, in England, between thirty-one and forty-two ounces, which passes off daily.

By

By proper evacuants of urine and the feces.

Cool dry air, tremor tartar, moderate exercise, but, above all, an extremely rigid abstinence from liquids of all sorts, will most avail.

Wind, or Flatulency in the Stomach.

There is always a quantity of air in the stomach and intestines; but it may collect sometimes in one part, sometimes in another, and cause a painful over distension; this superabundance fixing in any part, or in the stomach particularly, causes what is called oppression with wind.

The stomach often attempts to force it up or downwards; but the termination of the œsophagus, or gullet, or the beginning of the pylorus, being contracted, wind is retained there some time, occasioning painful hiccups, sickness, tremors, and convulsions.

It is impossible to determine how far the stomach may be distended by the elasticity of the air. It is known, that what was detained in a cubical inch, may expand so as to fill a space of 146 inches*.

Atmospheric air has been reduced into 1838 times less space than it before possessed; and it

* Hales.

has been rarified and swelled so as to fill a space 4000 times greater *.

Air may be deprived of its elasticity by the burning of brimstone, as is known in vinous fermentations.

Muffchenbroek observed, that a particle of air in boiling water expanded itself to 46,656,000,000 greater than it appeared before.

Without adverting to calculations, I have made experiments upon all sorts of vegetables, and find that leguminous foods, as beans, pease, &c. send forth the greatest quantities of air in digestion; boiled vegetables, fruits, and salads, less; animal foods, unless in a state of putrefaction, the least of all.

It is almost certain, that an immense quantity of air passes through the minute veins of the stomach and intestines; for there is always a great quantity transpiring through the skin, and air is mixed with all the human fluids and solids.

The air being detained in the stomach or intestines, either by the imperviousness of the minute imperceptible vessels, or by the debility of the stomach and intestinal canal, are the probable general causes of all the dismal and painful sensations arising from wind †.

As

* Muffchenbroek.

† Destructio intestinorum tono, alvina evacuatio recte se

As leguminous food, fruits, and vegetables, are productive of flatulency, they should be avoided by weak, nervous patients, and animal foods should be preferred.

Stimulating cordials and carminatives palliate the symptoms arising from wind, as spirits, ginger, caraway seeds, aniseeds, *confectio cardiaca*, cinnamon water, &c.: but medical intentions are best answered by forcing the flatus downwards, by carminatives, and laxatives of the bitter stomach kind.

Aloetics and soap, ginger, and rhubarb, before meals, or such remedies; or lac sulphur, magnesia, and ginger, are proper, and prevent costiveness.

To correct and counteract the air itself, lime water and absorbents often succeed; but nothing answers the purpose so well as drinking not above a small dish of tea or coffee in the morning and evening, avoiding all vegetables, and living chiefly on animal diet, and well fermented bread *.

Hiccups

non habet & flatulentiae & spasmi multas molestias creant.—Hoffman.

* See my treatise on diet, and the effects of different foods, &c.

Anatomical dissections after death in flatulency.

The stomach has been found highly inflamed ! burst in some instances, and immediately proved fatal

Intestina,

Hiccups.

Hiccups may happen without any ill consequences from a full stomach, and it is cured by surprise, a draught of cold water, vinegar, or a little spirits ; which remedies, likewise, remove the disorder when arising from small particles of food sticking to the œsophagus, &c.

Hiccups, though in health they often happen without disease, yet in the last stage of putrid and other fevers, diarrhoea and dysentery, they are accounted a fatal symptom.

Singultus or hiccups depend principally on the diaphragm, which, by an irritation of the œsophagus, stomach, &c. by consent of parts, ascends and descends in a convulsive manner,

Intestina, flatibus distenta callo arcta, verminosa, tumoris multis obducta. Stupendæ dilatationes cœci & coli. Vermes, flatus in abdominis cavo, aeris massa a peritonæo cohita, inculpati intestinis.

Hepar scirrhosum, putridum, contractum, induratum cum cystide fellea atrabile ad crepaturam turgente.

Lien amplissimus, nunc valde exiguus.

Epiploon quibusdam inflammatum, vel putredine absursum.

Pancreas scirrhosum, tabidum, putridum.

Mesenterium infarctum.

In abdomen colluvies serosa, parca tamen copia stagnans.

and not according to regular inspiration and expiration *.

If hiccups should arise from the flatulent stomach during digestion, it should be treated as flatulency, by carminatives, and directing the flatus downwards, and removing the antiperistaltic motion of the intestines, which often force up the wind.

The inflated stomach acting on the diaphragm from distension, closes the tube towards the œsophagus; this contraction resists the air which the stomach attempts to expel.

Affasœtida, camphor, valerian, ginger, and antispasmodics, volatile alkalies, &c. are excellent palliatives, and often remove the complaint, especially if joined with carminatives.

Stricture

* The singultus or hiccups are accidental or chronical, and may arise from a variety of causes, as suppressions of common evacuations, gout, saburra in the stomach, worms, violent emetics, or cathartics, poisons, a prolapsus of the *cartilago xiphoidea*, luxation or fracture of the ribs, or by any tumors pressing or impeding the diaphragm in its action. Internally it may arise from inflammation of any of the viscera, ileus, cholera, dysentery, haemorrhages, &c.

+ Anatomical Diffection after Death.

Inveniuntur innúmeræ pectoris læsiones, pulmones inflammati, purulenti. Stomachus bile vcl saburra scatens, gangrænosus, scirrhosus, inflammatus ultra modum dilatatus; cuius nervi

Stricture in the œsophagus.

The wind forced from the stomachs of nervous patients sometimes remains in the œsophagus or throat, and threatens suffocation, by compression on the windpipe, and large veins returning blood from the head. This is relieved by antispasmodics, spirit of lavender, and spiritus volatilis fœtidus, drank in ginger tea.

An oily mixture, in which the water is united to the oil by spt. c. c., will often remove the stricture, when other remedies fail.

If the difficulty of swallowing arises from inflammations, spasms, or tumors about the fauces, œsophagus, or neighbouring parts, or ulcers, the primary causes must be removed. The same is to be observed, if by consent of parts it should happen, as inflammation of the diaphragm, stomach, intestines, liver, or other viscera, the stomach has been forced from its

nervi nonnunquam a tumore in vicinis partibus premuntur: a sede depulsus.

Hepar amplissimum, inflatum, æque ac alia intestina, renes, vesica, aliave abdominis viscera.

Omentum scirrhosum, crassum, ventriculum deorsum, trahens peritonæo agglutinatum.

Pessim annotantur, putredines, gangrenæ, &c.

feat by relaxation of its connecting parts, or by an overweight of fat.

The Cardialgia, or Heartburn,

Is a hot, pungent pain in the stomach, caused by some acrimony irritating its nerves; or it originates from other visceral diseases, by consent of parts.

If acidity in the stomach is the cause, which is known by acid, sharp eructations, absorbents are useful, as chalk, prepared oyster shells, &c. magnesia, and lac sulphuris; or any of the volatile alkaline spirits, as spiritus fali ammoniaci volatilis; the sal sodæ, or sal and lixivium tartari, to ten drops, with bitter stomachics, lime water, &c. These neutralise acidity. Rhubarb and ginger are proper before meals.

The *limatura martis præparata* is likewise excellent, especially when debility and pallor accompany these symptoms.

In the acid cardialgia, milk and sweetened food increase the violence of the pain; for milk coagulates by the contact of the acid in the stomach; and all sweets are converted into a sharp acid humor, when acidities abound.

Cinnabarine preparations with magnesia are sometimes useful.

A rancid acrimony is likewise amongst the causes

causes of the heartburn, which is perceived by oily, rancid, putrid, and sulphureous belchings. In this species, aloetic elixirs, and stomachic spirituous tinctures; vitriolic acids, with or without bark; Hoffman's anodyne liquor, and similar preparations, are useful.

In the rancid heartburn, eggs, oil, and fat meats, are highly improper.

In many cases in which death has ensued, where the heartburn seemed to be the predominating complaint, various parts of the thoracal and abdominal viscera have been tumified, scirrhouſ, or otherwise diseased. In these instances the heartburn was only a symptom *.

* *Anatomical Dissections after Death.*

Bilis acerrima vel æruginosa in stomacho, lapilli biliare, sanguis extra vasa.—Ventriculus flatulentia vel cibis in immensam mollem distentus, a sede depulsus; ejus tunicae crassiores, occalcentes, inflamatæ, purulentæ, ulceratæ, intus & extra exesæ, putridæ, gangrenosæ, scirrhosæ, cancrosoæ, tumores, sarcosæ, verrucæ, pustulæ, vermes, lapides, extranea deglutita, metallica, lapidea.

Pylorus tumidus scirrhosus, ulcerosus, aut valde relaxatus.

Duodenum morbosum, distensum flatibus.

Hepar scirrhosum, inflammatum, purulentum, putridum, morbidus lien, pancreas, mesenterium, omentum, &c.

Vesicula felca ad crepaturam referta; concretionum bilia-rium stupendus numerus.

Herniae epiploicæ, procidentiæ ventriculi, lienis, &c.

Ancurisina aortæ vel coeliacæ arteriæ.

Cordis immensa molles.

Mediastini & pericardii phlogosis.

The terrene absorbent earths, if not dissolved in the stomach by the aëreal acid, or acid humor, they remain in the state they were taken, and lay heavy.

In chronic cases, with debility, mineral waters have succeeded; for acidities, the chalybeate; for the rancid acrimony, Seltzer, and similar waters, are to be preferred.

The cure, then, of the heartburn, chiefly depends on different modes of treatment, by acids and alkalies; stomachics and tonics; carminatives and aloetics, æthiops, or cinnabar: but in the use of either acid or alkali, great judgment is necessary in prescribing the proper quantity to *saturate*, or correct the offending matter.

Voracious Appetite, or Bulimus,

Is an unnatural and keen appetite for food.

The patient has a continual craving for food, and eats with uncommon eagerness, but receives little nourishment.

The *causes* are, a sharp gastric acrimonious juice, poured into the stomach by the arterial orifices, or exhaling arteries; from depraved blood, depraved exhalations in the stomach, and other parts.

Worms

Worms are likewise the cause of this hungry sensation.

There are examples of men, at one meal devouring above forty pounds of meat, with an almost incredible quantity of bread and wine.*.

Aloetic purges, and correctors of acidity, are the remedies ; but, above all, changing the acrid state of the blood by æthiops mineral, cinnabarine, and other metallic alteratives ; these have cured where all common remedies have been used in vain. The viscera are commonly diseased, and stomachic remedies cannot rationally be expected to succeed, though they may act as auxiliaries during the radical cure, which requires patience and perseverance in the remedies †.

Worms.

Anthelmintics are necessary for worms, as calomel and aloetics, assafœtida, or garlic, or purges ; to which are added the *salsodæ*, borax,

or

* I remember a man some years ago, who was a German, and famous for swallowing several pounds of large pebble stones, which could be rattled one against the other, by striking the stomach. This man could eat six or eight pounds of meat every meal ; but he always appeared very meagre and pale.

† *Sectiones cadaverum.*

Stomachus ultra modum turgens : in ejus cavo eruor stagrans colluvies atramenti instar nigra ; bilis æruginosa, & quasi vitri-

or pulvis sabinæ ; for these last remedies, by dislodging part of the *mucus* adhering to the intestinal canal, oblige the worms, which stick like leeches to the intestines, to let go their hold, and by this means they are effectually evacuated. Cremor tartar and aloetics effect the same. Peruvian bark and chalybeate preparations.

Depraved Appetite, &c.

A disinclination or loathing of food is called a depraved appetite.

Authors give many names to this disorder, according to the degree or peculiarities of affection, as dyforexia, anorexia, *pica*, *malacia*, &c. &c.

It happens to pregnant women ; and it is surprising what strange fancies have possessed their imagination, in desiring absurd things for food, as rosin, pitch, tar, grease, stone, brimstone, shells, dirt, clay, &c. and they often greedily eat these things without injury. A diseased stomach is not only predisposing to nervous hysterick affections, but it often gives rise to many symptoms.

vitriolica ; pylorus laxior, ductus biliaris in ventriculum hians. Stupendus proventus lumbricorum, solium, five lumbricus latus. Lien stupendæ magnitudinis. Hepar amplissimum.

In chlorotic girls similar diseases are sometimes observed*.

Causes. Debility of stomach and depraved blood, with a relaxing acrimonious gastric juice, rendering the stomach so feeble, that by repeated experience from effects of various foods, the mind abhors the very sight or smell of any.

Whatever the stomach has repeatedly rejected, impresses the mind, and occasions future dislike; so that the bare mention of certain things create disgust, nausea, or vomiting †.

Cure. During pregnancy, little is to be attempted; magnesia, lac sulphuris, and ginger, are most proper.

In the chlorotic, the primary disorder is to be removed.

For the nervous and hysterick, aloetic laxatives, correctors of the particular acrimony, abstinence from tea, and all watery relaxing

* See *Chlorosis*.

† A person, it has been known, who has taken one or two doses of ipecacuanha, will be easily ruffled by the sight of this drug, and feel in his stomach a disagreeable sensation. Those who remember taking jalap, or buckthorn, or any other nauseous drug, in their infancy, will easily produce by recollection disgust in their stomachs at the bare recital of the drugs, &c. Disagreeable foods or drinks produce the same effects.

liquids;

liquids; bark, steel, chalybeate, or Seltzer water, air and exercise, are useful.

Cramps in the Stomach.

An over contraction, or dilatation of the muscular coat of the stomach, may be denominated a cramp of the stomach.

Causes. Whatever violently irritates the nerves of the stomach, so as to act with force on its muscular coat. It can originate, likewise, in rheumatism, gout, and other disorders, as a symptom.

The dilatation is commonly arising from wind.

The contraction, from the acrimony of the fluids circulating in the muscular coat, shortening or contracting the fibres of the muscles*.

Cure.

* These dilatations and contractions are easily conceived when the action of dilatation and contraction of the stomach is considered, as being full or empty. I have seen many cases of extreme distension; one in particular, from eating pease, where the stomach swelled in the form of a little mount, appearing rather conical. The pain and distress in this case were inexpressible: for the wind, which was its principal cause, increased in bulk to an enormous degree, and could neither ascend nor descend, for both the entrance from the oesophagus and the pylorus were perfectly, for a considerable time, contracted so as to render both orifices impervious. I prescribed some calomel and rhubarb in pills, and an oleaginous

Cure. The distension should be removed by carminatives, aloetic purgatives with calomel, and antispasmodics.

The contraction of the stomach is most difficult to remove, and requires great attention to diet; as in the former case a diminution of wind is necessary, so in the latter, a moderate creation of air is useful: the stomach, however, is so contracted, and its fibres so rigid, as cause a very painful resistance to the fermentative process of digestion. In proportion as the air extricates itself from the food, and distends the stomach, so proportionably is exquisite pain excited. The stomach is sometimes so violently affected, as to be incapable of bearing any solid, or scarcely liquid food.

All hot spirituous liquors and cordials, though they are commonly recommended, are highly improper; for though they give a little temporary ease, yet they cause an increase of the disorder, which preventing nutrition, in time proves fatal.

The diet should be light and very simple, as panada, toasted bread soaked in beef tea, or

nous mixture, with tincture of sena, *spiritus cornu cervi*, &c. These remedies succeeded; and the lady, who is now living, has never had any return of the disorder, by observing a proper regimen, and preventing costiveness.

barley

barley broth; but always in small quantities, and never very warm.

Meat in small portions, made tender in dressing, by simmering, and bread, agree with some better than liquid food.

The medicines used internally should be of the antispasmodic kind, gently laxative, and oleaginous; outwardly fomentations.

The following remedies I have found useful.

No. 78. Rx. Julep. e camphor. ʒiij.

Ol. amygdal. dulc. ʒiis.

Tinct. sen. ʒj.

Spt. c. c. ʒj. M. f. mistura cujus capiat coch.
ij. bis vel ter in die.

Or,

No. 79. Rx. Ol. amygdal. dulc. ʒiis.

Aq. rofar.

— pur. ॥ ʒiis.

Mucilag. gum. arab. ʒiij. syr. simp. q. s. f.
mistura, cuj. capiat coch. j. vel ij. ad libitum.

An oily draught, with a few drops of oleum anisi, or other essential oils, assafœtida, camphor, musk, and valerian, or other antispasmodics, clysters, or a semicupium, will often alleviate the symptoms: but if the disorder continues long, nothing but a mineral alterative course is likely to eradicate the complaint.

The disorder being seated in the minutest system of vessels, nothing but what is extremely

ly

ly penetrating and gentle in its operation can answer any decided curative intention. Prescriptions of this nature, however, should be well considered; for whatever irritates the stomach itself, will increase, instead of curing the distemper. Cinnabar, æthiops, crude quicksilver, or lac sulphur, should first be given, and afterwards the more powerful alteratives.

No. 80. Rx. Cinnab. antimon. ppt. ʒss.

Pulv. e tragacanth. e ʒij. M. f. pulvis dividendus in xij. doses, quarum sumat unam bis vel ter in die, in coch. ij. julep. e camphora.

Physicians who carry their ideas of medicine no farther than to palliate symptoms, prescribe opium; this confirms the disease, and renders it afterward incurable: but in some very painful cases, humanity demands an alleviation of distressing symptoms; under which circumstances, medicine is forced to administer mitigators of pain, while the other remedies are operating; the *pilula e styrace*, to three or five grains, is proper.

Watry Liquid, or Phlegm rising in the Stomach.

The accumulation of a serous liquid in the stomach originates in either an increased saliva descending from the mouth, or from relaxation of the orifices of the exhalent minute capillary

pillary arteries of the stomach, or from an increased secretion of the pancreatic juice, forced from the *duodenum* to the stomach.

It sometimes occasions nausea and vomiting, in which efforts, a limpid liquor is thrown off from the stomach.

These various species commonly arise from relaxation, or irritation from different stimuli, whose acridity should be treated agreeable to their species, by diluting, changing, or evacuation; or neutralised, if acid or alkali, and afterwards with corroborants, as bark, steel, &c. An extreme dry diet will be necessary.

Stomachic purgatives are likewise particularly beneficial; for by conveying the offending matter downwards, an opportunity is obtained of removing the relaxation, and giving energy and vigor to the weakened vessels of the stomach by tonical remedies.

Nausea, or sickness without vomiting,

Is an inclination to vomit without effecting it.

It is an attendant on cardialgia, and a variety of other disorders, *pregnancy*, &c. occasioning an aversion for food, an increase of saliva, disgusted ideas at the sight of various objects, loss of appetite, debility, &c.

If

If arising from *acidity*, it is cured by absorbents and antacids ; if from *bile*, by gentle laxatives, rhubarb, senna, tremor tartar, or infus. sennæ and sal *diureticus* ; if from *worms*, by the anthelmintic remedies.

If from *flatus*, or wind, by carminatives and stomach purges.

In pregnancy it frequently happens from the changes the impregnated uterus occasions ; but this symptom, as likewise vomiting, vanish commonly toward the fifth month ; and they should be treated with great gentleness, by venæsection, *lac sulphuris*, *magnesia*, and *rhubarb*, or the saline, or volatile saline draught. As it is symptomatic, vomits should never be used *.

If from sympathy, or consent of parts, the primary causes must be investigated and subdued ; these exist, more or less, in the *viscera*.

If from nervous irritability, by antispasmodics, volatile alkaline draught with confection cardiac. bitters, Hoffman's anodyne liquor, spirits of lavender, &c.

Vomits in these cases are dangerous, though very commonly prescribed. In many diseases of the viscera, vomits are absolutely *contra-*

* See my *treatise on The Causes of Death in Childbed investigated, and treatment of females during pregnancy, lying-in, &c.*

indicated; the irritating cause in the stomach, therefore, should always be conveyed through the intestines, and evacuated downwards, particularly in nervous cases. Violent practices are proper or useful to strong constitutions, and violent diseases; in delicate nervous females, the gentlest methods should be preferred, lest the effects of the remedy might prove more injurious than the disease.

Vomiting.

A forcible ejection of food, or any other substance, from the stomach, through the œsophagus and mouth, is nominated vomiting.

It is either *idiopathic*, when arising from a cause in the stomach itself; or *symptomatic*, when originating from diseases seated in any other part of the body.

Its immediate cause is an antiperistaltic, spasmodical, convulsive constriction of the stomach, pressure of the diaphragm and abdominal muscles.

It is an effort of nature to expel whatever molests, or is troublesome in the stomach.

The species of vomiting are alimentary, biliary, pituitous, acetous, lacteous, atrabilious, urinous, or verminous, &c. requiring different treatments, according to their respective causes.

The

The *causes* are numerous, and should always be well considered before any remedy is administered *.

In

* Vomiting may arise from the following, and many more causes: but these will be sufficient to shew the *inefficacy* and *danger* of giving *vomits*; which are too frequently and rashly prescribed by the vulgar, and particularly by persons quite ignorant of medicine.

1. From hard drinking.
2. Saburra, or foul stomach.
3. Errors in diet during lactation.
4. Dentition.
5. Worms.
6. Hunger.
7. Poisons.
8. Callosity of the pylorus; † spasms, or convulsions; hiccups, or contraction of the stomach.
9. From hypochondriac and nervous affections, and depraved imagination.
10. Ulcer in the stomach.
11. Steatoma in the stomach, abscess, tumor, or scirrhus.
12. Pregnancy.
13. Stony or calcareous concretions in the stomach, as in some gouty cases.

† A remarkable instance of this sort happened to the child of Mr. Marchant, Sutton Street, Soho, who rejected its food constantly for many weeks, and was continually in convulsions whenever any food was received into the stomach. After many remedies were prescribed without success, the child died, and I opened it in the presence of Mr. Mainwaring, of the Strand, and Dr. Huber. The *pylorus* was found perfectly callous, imperforate, and greatly thickened. The cause of the convulsions and death were clearly investigated; and it seemed the stomach had absorbed nutrition a considerable time without the *laetal* system.

In nervous and hysterical complaints, vomiting originates in the disorders and affections of the head, lesions of the nerves, perturbation of the mind, or vitiated viscera.

The substances forced from the stomach

14. Bite of a mad dog, from the putrid infection received.
15. Black or yellow bile forced into the stomach.
16. Obstruction of the duodenum and intestines.
17. Obstruction, and various diseases of the liver.
18. Stony concretions in the gall bladder, or passage through the biliary ducts.
19. Pancreas diseased.
20. Hernias, of various species.
21. Inflammation of the stomach.
22. Several affections of the intestines, as colica, cholera morbus, diarrhoea, dysentery, piles, &c.
23. Gravel or stone in kidney or bladder.
24. Abscesses, inflammation, obstruction, or ulcer of the oesophagus.
25. A prolapsus of the xiphoid cartilage.
26. Sailing at sea, riding in a coach, turning the head quickly round, vertigo, &c.
27. Concussions, contusions, fractures, and all disorders of the head.
28. Every species of malignant fevers, in particular jail and putrid fevers.
29. *Metastasis*, or translation of morbid fomes from other parts.
30. Suppressed menses, or too great evacuations.
31. Every disorder almost of the womb.
32. Various collections of substances or matter in the stomach, or relaxation.
34. Diseases of the heart and organs of respiration.

should

should be examined; for they are more frequently brought from the intestines, than originating in the stomach itself.

Yellow, or dark-colored bile is certainly forced from the *duodenum*; *blood* appearing, from retention, of a blackish color, may be effused from the rupture of some small blood vessels, by the force of vomiting; or, perhaps, in some instances, when the exhalent arteries opening on the internal surface on the stomach are greatly relaxed and irritated, red blood may be forced through their orifices, which are naturally destined to carry a limpid serum *.

* In the inflammations of the eyes, the increased action of the arteries frequently force red particles, where serum should only pass in the minute arteries.

In the last stage of malignant putrid fevers in the West Indies, red blood in a putrescent state is forced through the pores of the skin in every part of the body. This, though rarely, I have seen in 1762 and 1763 at the Havanah, and other parts of the West Indies and America. From this circumstance, independent of the reports of other authors, I am inclined to believe the same possible on the whole internal surface of the stomach and intestines, occasioning the most vehement colligative and putrid purgings.

In health, a considerable quantity of serous fluid is exhaled through the arterial orifices in the stomach, constituting part of the *succus gastricus*, or stomach juice to assist digestion. Any contamination of the blood will certainly change the fluid exhaling in the stomach; and this will affect digestion, chylification, nutrition, &c. The blood, more or less prone to a lax state, may pour out liquids in the stomach capable of producing putrid eruptions, &c. &c.

The cure of nervous vomitings consists in conveying the offending matter downward by gentle stomachic bitter laxatives, by antispasmodics; and afterward to give tone and vigor to the relaxed stomach, by bracing remedies; as vinum chalybeatum, with simple cinnamon water, sweet elixir of vitriol, Hoffman's anodyne liquor, infusions or decoctions of bark, chalybeate waters, &c.

The *Hampstead* water is excellent for this purpose.

If from acidity, by absorbents, lime water, magnesia, ginger, and rhubarb; if from alkaline matter, by acids of the vitriolic kind and stomachics, Mynsicht's elixir of vitriol, &c.

To palliate, æther, naphtha of nitre, spirits of lavender, oil of mint or cinnamon on sugar, saline draughts, or the volatile saline draught made in the following manner.

No. 78. Rx. Sal. ammoniac vol. 3fls.

Succ. limon. q. s. ad saturationem, deinde adde
aq. cinnam. simp. 3j.

Confect. cardiac. 3j. f. haustus, bis vel ter in
die sumendus.

Or the following mixture may be given.

No. 79. Rx. Sal. volat. c. c. 3fls.

Succ. limon. q. s. ad saturationem deinde adde
Aq. cinnam. simp. vel flor. aurant.
— — — pur. 3ij fls.

Tinct.

Tinct. rhei spirit. 3j. M. f. mistura, cuius
capiat coch. j. vel ij. ter vel quater in die.

No. 80. Rx. Sal. c. c. gr. v.

Aq. aneth. vel menth. vulg. simp. 3ss.
Confect. cardiac. 3j. f. haustus ter in die su-
mendus.

Vel, bibat ægra ante prandium & cœnam 3ij.
tineturæ rhei spt. cum cochl. ij. aquæ pur.

In every species of vomiting, *costiveness*
should be carefully prevented or removed, that
the inverted peristaltic motion of the intestines
may be directed to take its natural course, in
propelling the contained matter or substances
through the intestines ; this is effected by clys-
ters, &c.

When the vomiting is caused by diseased vis-
cera in general, or the womb and its appen-
dages in particular, it must be removed by ap-
plying remedies to the primary causes *.

In

* Anatomical dissections after death.

Raro occurrit stomachi mala conformatio, sed nonnunquam
mole portentosum ; e sede sua depellitur, tum a propriâ her-
niâ, tum à herniâ epiploica, scirrhosus in multis invcnitur ven-
triculus. Pylorus huic vitio magis obnoxius est, in nonnullis
cartilagineus, osseus, contractus, obstructus fuit a nummo,
aliove corpore extraneo ; ventriculus pustulis, tumoribus obsi-
tus, phlogosi, purulentia, eruptione & gangræna tactus,
dilaceratus.

In no cases, however, are *vomits* necessary to nervous hysterical patients, unless the matter already in the stomach cannot be propelled through the intestines; or if any poisonous substance should have been swallowed, as opium, hemlock, preparations of lead, &c.

When the viscera are chronically diseased, all vomits are contraindicated; for no one can foresee their dangerous consequences: in acute disorders of the stomach and intestines they may be occasionally necessary; but should never be prescribed without the utmost caution.

As palliatives, in nervous nausea and vomitings, *affafœtida*, *sagapenum*, *opopanax*, *castor*, *myrrh*, *saffron*, and similar medicines, have

Hepar inter cetera viscera abdominalia frequentius fœdatur, inflammatum, purulentum, scirrhosum, steatomatosum, gangrenosum, stomacho accretum, aridum, durum, & quasi elixatum.

In vesicula fellea concretiones; & copia magna bilis; infertio insolita ductus communis.

Intestina valde distenta, & alibi quasi filo constricta: extra abdomen una cum epiplo depulsa; putrida, accreta, intusfuscepta, vermibus plena, obstruta, disrupta, gangrenosa.

Lien, pancreas, mesenterium, omentum, varie lœsa, calculi renum.

Tumores stomachum & intestina comprimentes.

Cartilaginis xiphoidis prolapsus.

their

their advantages, and may safely be prescribed, while the deeper and more important cause-removing preparations are taken.

Bile in the Stomach.

There are two species ; the one yellow, bitter, and very irritating ; the other livid and blackish, and in a great measure inert, until it has obtained a disposition to putrefaction.

These species are forced up from the first intestine by the inverted peristaltic motion of the intestines.

When in the stomach, the former species occasions great sickness, and, by consent of parts, severe headach.

The cure and prevention have already been explained ; which consist in conveying the offending matter through the intestines by mild stomach laxatives, and by supplying the defective inert qualities of the bile with soap and aloetics, rhubarb, infusions of sena, tremor tartar, or sal diurcticus. Costiveness should be prevented with great care.

Wind in the Stomach and small Intestines.

It is known to be in the stomach by a tumor, distension, hiccups ; in the small intestines, by being

being seated mostly in the centre of the abdomen, and a particular hardness or tension.

Its emission from the stomach is called eructation; this is promoted by carminatives with tinct. rhei, &c. These warm remedies gently stimulate the coats of the stomach, to a due contraction; by which the exit of wind is procured upwards.

When wind is seated in the small intestines, it is to be promoted downwards. This is to be effected by warm carminative stimulants, with assafœtida, bitter stomachic laxatives, as infusions of senna, chamomile, &c.; or carminative clysters, &c. See wind in the stomach.

Wind in the large Intestines.

Is known by the distension and pains being more in the circumference of the abdomen; to be similarly treated.

Wind and hardened feces are easier evacuated from the large than the small intestines, in this case emollient clysters do great service in a short time.

Costiveness.

Costiveness is a too long retention of feces in the intestines.

The causes are multiplex, which should be considered before the removal can be effected.

i. *Tumors,*

1. *Tumors*, or diseases of the viscera, particularly indurated mesenteric glands, by compressing the intestinal canal, retard the free passage of the feces.

This is frequently incurable ; but the most probable means of cure are by mineral alteratives, calomel in small doses, and bitter cathartics.

2. *Obstructed biliary ducts*, which are best opened by calomel, aloetics, sal diureticus, soap, and oleaginous cathartics, or the *oleum ricini* ; almond oil, manna, and tincture of senna, &c. emollient clysters, &c.

3. If from a spasm in the *duetus communis cholidochus* by an over distension of the duodenum ; by the foregoing means, and antispasmodics.

4. *Debility* in the moving or muscular powers of the intestines, is a cause of costiveness ; laxatives gently stimulant should be constantly ordered, and at intervals stomachic bracers, electuarium lenitivum, with ginger, electuarium e scammonio, aloetic pills, &c., should be daily used until the cause be removed.

5. *Dryness* of the intestines, from obstructed exhaling arteries, or absence of pancreatic juice ; known by dry hardened lumpish feces ; is best removed by castor oil, mutton and veal broths, oleaginous cathartics, and vegetables boiled.

6. *In-*

6. *Insipidated mucus*, covering the internal surface of the intestinal canal, so diminishes irritability as to require alkaline salts, soap, sal soda, or borax with bitter laxatives; as infusions of senna, with chamomile and carminative seeds of anise, carui, &c., to extricate the adhering matter. The alkaline remedies are to be used with caution, in small doses and well diluted; lest they abrade the *villous* intestinal coat. They are contraindicated, whenever the patient has formerly labored under diarrhoea, haemorrhoids, or bleeding piles, &c.

7. *Paralysis* of the intestines rarely happens, except by preparations of lead, or *lead in wines*; which by slow degrees, though small in quantity, proves fatal. The remedies are oil and volatiles, cordials, stomachics, and irritating clysters; stomach purges, and afterwards invigorating tonics.

8. The tumors and other affections of the womb; the stone or gravel frequently cause obstinate constipation: remedies should be directed to remove these complaints, in conjunction with mild eccoprotics and emollient cathartic clysters, daily repeated.

9. *Costiveness* arising from a sedentary life and much contemplation, as amongst the studious and literary, should be removed by exercise of body and relaxation of mind. Many other

other causes might be assigned as productive of constipation; but these are sufficient for the present purpose.

All astringent diet and acid austere wines are to be avoided: roasted apples, prunes, or French plumbs, accelerate the descent of the feces.

Glauber and *Rochelle* salts, the sal *polychrest*, *tartarum solubile*, and such saline purgatives, are more effectual than any of the foregoing laxatives; but they seldom agree with the stomachs of the nervous, old, gouty, or debilitated: in some instances, however, their assistance must be solicited *.

Bilious

* Dissections after death.

Intestina repleta, fæcibus induratis, materiaque quadam mucida, intricata, ultra modum distenta flatibus, concreta, obstruēta, lapides continentia.

Colon & crassiora intestina fæcibus duris & quasi lapidescentibus obstruēta.

Repertum fuit colon nucleis cerasorum, & persicorum ad trium librarum pondus infarctum, dilatatum ventriculi instar. & in fine ampliationis coarctatum, ac annulo carnoso sphincteris ad instar constrictum.

In illo inventæ fuerunt sarcosæ ingentis molis: occalescentiæ, tumores, tubi coalitus ab exulcerati lateris contactu.

Visa organa hæc putrida, gangrænosa vel dilacerata, a stagnatione collectarum materiarum.

Sæpe ventriculus & intestina a situ dimota, scirrhosa.

Hepar scirrhosum, vesicula fellis, nunc inanis, nunc turgida vel lapideis concretionibus foeta.

Pancreas

Bilious excrements.

An overabundance of bile secreted in the liver and poured into the *duodenum*, will irritate the intestines, occasion great pain and bilious purgings.

These evacuations are not to be *checked* by *astringents*, but gently promoted by rhubarb and *cremor tartar*, decoctions of tamarinds and fena: these acid and stomach purgatives correct the bile, and facilitate its evacuation with little pain.

When the bile is thoroughly evacuated, gentle *tonics* are proper; but great caution should always be observed, never to close the bile duct opening in the *duodenum* by *astringents*; for inflammations and scirrhosities of the liver have been the consequence. I have seen *bark* and *elixir of vitriol* produce these effects, the war before last at the Havannah in 1762, and other West India islands. These affections of the liver are cured by *antimonials* and *mercurials* given as *alteratives*.

Pancreas induratum, ingens; lien magnus, pendulus; omentum, crassum, putridum, intestinis accretum.

Passim tumores, e ventriculo, mesenterio, utero, vagina, aliisque partibus exsurgentes compriment tubum intestinalis.

Læsiones cerebri & medullæ spinalis sœpe intestinalis paralysem post se trahunt.

The

The bile may be forced into the intestine by an over distension of the stomach, either from wind, or too great a quantity of food; this latter proves salutary, for it promotes a temporary purging, and removes the effects of over repletion.

When the bile is increased by passions of the mind, which is no unusual concomitant of anger, or violence of temper; serenity of mind must be earnestly recommended. Persons who possess the best and most noble sentiments are often too irritable, they expect more integrity than the world possesses: but if their perturbations of mind arise from human villainy, vices, or errors, no reformation will be produced by rage or angry passions. Those who are capable of infamy, seldom blush at the recital of it: the benevolent and worthy, however, do not owe the destruction of their own health, when it can answer no important purpose; it is too precious a sacrifice. Foresight to prevent, or calmness and acquiescence under temporary misfortunes, should be strongly inculcated to the nervous.

Black excrement, or feces.

These appear to originate in an ill secreted bile, or its too long retention either in the gall bladder, or duodenum.

It

It is inactive to a certain degree, and by not stimulating the intestines from its destitution of purgative qualities, costiveness is produced; its long retention is followed by a tendency to putrefaction; for the *fixed air* being extricated, flatulency is the consequence.

The descent of this black bile should be promoted by *tinctura sacra* and *cremor tartar*; or any acid laxatives; its stagnation in the intestines should always be prevented, as it would assist in producing a vitiated chyle, and a bad habit of body.

Oranges, the summer acid fruits, or roasted apples are proper, if they agree well with the stomach; these check the putrid tendency of the vitiated bile in the intestinal tube, and prove gently laxative.

When the cause is in the liver, mineral alteratives are the most proper medicines to remove obstruction, or scirrhus.

Blackish stools may likewise arise from effusions of blood in the stomach, or intestinal canal, from the exhalent arteries; or from chalybeate medicines: these circumstances therefore should be well ascertained, before medicines are prescribed.

Pale-colored argillaceous excrements.

This is a common symptom of the *icterus*, or jaundice,

jaundice, and happens from the want of bile in the intestinal tube.

The *causes* are,

1. An obstruction in the biliary ducts.
2. A disease in the liver, by which the bile is not properly secreted.
3. The bile is conveyed into the blood instead of the gall-bladder, or intestines, causing a yellow diffusion in every part of the body.

Gall Stones obstructing the biliary ducts, are commonly known by exquisite pain in the part, argillaceous or clayish feces, vomitings, &c. This is to be treated by *venæ section*; oleaginous purgatives, and manna, emollient clysters, warm baths, &c.

If the cause should exist in a diseased liver, productive of the jaundice; aloetics and calomel in small doses; sal diureticus, and the bitter infusion, frequently cure the complaint.

Saponaceous remedies and rhubarb, are less efficacious than the antecedent.

A mineral alterative course afterwards, will often prevent the return of the disease; as it is most likely to remove gradually obstructions in the liver, or ducts without irritation.

Acids are recommended both by practitioners and authors in the jaundice; but very erroneously.

The *bile* is diffused through the whole habit; acids, as generally prescribed, cannot follow it; for they are neither received by the lymphatic system, nor inhalent veins, unless exceedingly diluted; consequently cannot counteract by neutralisation, or solution in the whole body, the alcalescent quality of the yellow-coloured fluid; but when the bile is in the intestines, acids, and acid laxatives are very beneficial; because they more probably come in contact, and correct, or expell the offending matter.

Boerhaave, and Van Swieten, recommended the *vernal herbage*. Stony concretions in oxen, are removed by the spring grass, especially those who have lived upon hay, &c. in the winter: Upon this principle, the *succus graminis* is prescribed as a powerful detergent and obstruent.

Purgings.

Purging is a too frequent, or inordinate evacuation of feces, or excrements.

The *cause* is a stimulating matter, or too-great irritability of the intestines, by which frequent contractions of the fibres are excited; thus all the secretions are more abundantly produced, and by the increased peristaltic motion, the contents are quickly evacuated in a liquid

liquid state, the thinner parts not having time to be taken up by the absorbent vessels.

The substances capable of stimulating the intestines, from the *materia medica*, are cathartics, and other acrids; various sorts of foods particularly of the vegetable and fruit kind; some meats, as pork and pig; sudden cold, suppressed perspiration; but some of these being accidental, and others peculiar to individuals, little is to be prescribed by medicine, except the abstinence from whatever can produce the effect. In the *hypercatharsis*, diluents, emollients, cardiacs, anodynes are indicated.

Purging should never be *hastily* checked, and particularly if attended with pain; the cause should always be removed by gentle laxatives, of rhubarb, saline purgatives and manna, oil, &c. before either astringents, or opiates are administered.

The small doses of *ippecacuanha* recommended for purgings, are very unpleasant and rarely necessary; to occasion a continual nausea, when milder methods present themselves, is a more violent practice than nervous purgings in particular require.

Pain, though a great enemy to human tranquillity, is a favorable symptom in purgings; its suppression should very cautiously be attempted by opium; for mortifications of the

intestines have been the consequence: therefore griping pains should in general, be borne patiently until their irritating cause be removed. I have known many instances, where the injudicious use of *opium* and warm cordials, formerly recommended by Sir John Pringle and others, has proved uncontestedly *fatal*; particularly in the diarrhoea of armies, hospitals, and hot climates.

Bile or any other stimulating matter exciting frequent stools, must be evacuated, or corrected. A small quality of vitiated matter can alter and change a considerable mass, and soon contaminate the whole body; an example of which is evident from the admission of any putrid matter in dissection, by a slight scratch, &c.

The purgings of nervous people, however, are more commonly owing to laxity and sensibility of the intestinal canal, than to any violent irritating matter, bile excepted.

If the purging arise from debility of the stomach or intestines, after a dose or two of rhubarb; tonics of the gentle astringent kind are useful; the julep. e creta, Hoffman's anodyne liquor; the pulvis terræ japonicæ, the *extractum ligni campechensis* dissolved in aq. cinnam. simp. Confectio cardiaca, or in nervous
pains

pains the confection Damocratis may be administered.

Antispasmodics often remove the colicky purgings of the nervous class by allaying irritability ; and these remedies should always be preferred to opiates, as assafœtida, camphor, and sal. c. c. in mixtures, &c.

Nervous Tabes, or wasting of the Body.

The causes of consumption are various ; as ulcerated lungs, and it is then called *phthisis pulmonalis* ; chronic disorders of the viscera ; or debility of the organs of digestion and nutrition ; great evacuations from hæmorrhages ; fluor albus, obstructed or profuse menses, increased saliva, or too copious perspiration, lactation, diabetes, diarrhœa, dysentery, lientery, obstructed mesenteric glands, scrophula, &c.

All these causes require a different mode of treatment according to indications, violence, or acuteness of the complaint, fever or other circumstances.

A nervous tabes is a wasting of the body without any remarkable fever, cough, or difficult respiration ; it is accompanied with inappetency, depraved digestion, and want of proper nutrition.

The *primary causes* of the nervous atrophy, are violent passions of the mind, love, grief, &c.; frequent drinking of ardent spirituous liquors, or unwholesome air.

The *cure* consists in calming mental violence; the avoiding cordials, or spirituous liquors; the removal from insalubrious, to a purer and more elastic air, and the administering remedies adapted to the particular or occasional causes.

If from debility or a depraved stomach, gentle stomachic evacuants, tonics and bitters are proper.

If from obstructed mesenteric glands, or diseased viscera, mineral alteratives.

If worms are the cause, they must be evacuated by anthelmintics, mercurials, purges, &c.

Nervous cholic.

Griping pains in the intestines of nervous patients, flying from one part to another without either purging or vomiting, is called the nervous cholic.

The *cause* is most probably fixed air, or the *aërial acid*, or inflammable air, retained in the intestines, vellicating, or stimulating the nervous system, expanded all over their internal surface.

The

The cure is similar to that already recommended for wind in the stomach, or intestines. Stomachic laxatives, carminatives, antispasmodics, and lime water, oleum *anisi*, *carui*, *cinnamomi*, warm carminative fetid clysters, and sometimes a light opiate may be useful.

Worms.

Worms of different species have been found in the stomach, or intestines of persons of every age; but from constipation, are very common to the nervous and hysterick.

They are distinguished into the *lumbrici* or *teretes*, like earth worms; *tænia*, similar to tape; *cucurbitini*, like gourd seed; and *ascarides*, a very minute species like maggots, not thicker than a small pin.

They are generated either by different foods, or descend with vegetables, cheese, farinaceous, or leguminous foods.

The *lumbrici* and *tænia* are commonly in the stomach and smaller intestines; the *ascarides* in the larger intestines, and particularly in the rectum, occasioning itching and irritation.

Tape worms have been found many yards long; and it is easy to conceive what injury they must occasion to the patient, by sucking a large quantity of nutriment for their support.

Innumerable symptoms accompany worms; as pallor of the face, eyes sunk in the orbits with a livid hue underneath; gnashing of the teeth, fetor in the breath, voraciousness, wind, indigestion, pricking sensations, uneasiness in the stomach and intestines, hard swelled belly, hiccups, dry cough, starting in sleep, convulsive and other fits; frequent itching and picking the nose; abscesses and a vomiting, or purging of slimy purulent pus; anxiety, feverish heats and flushings, faintings; the voiding worms by the mouth or *anus*; but nothing so obviously determines their probable presence in the intestines, as some having been perceived from the stomach, or evacuated in the excrements; all other symptoms are equivocal, or doubtful. Many verminous symptoms are common to the *hydrocephalus internus*, or watry head of children, the diagnostic sign, however, of which, is a dilatation of the pupils.

It is astonishing how firmly worms adhere to the coats of the stomach, or intestines, much like leeches; from whence they draw their nourishment by continual su^ction; which in the larger worms, when in great quantity, must prove a considerable loss to the human body, by defeating the nutrition of the body, causing great waste, languor, worm fevers, and many other bad consequences; often occasioning violent

lent cutting piercing pains and consumption of flesh.

The smaller worms are, perhaps, oviparous, the *lumbrici* are certainly viviparous; I have in my possession species of these large worms, which were discharged at the time they were casting forth a young brood. Worms frequently perforate the coats of the intestines.

The cure consists in dislodging the worms from their holds on the villous coat of the intestines.

It is evident that the excrements pass through the intestines without the exclusion of worms; and it frequently happens, that the most approved purges are ineffectual: cathartics are, however, proper, after remedies which act on the villous coat, remedies which are particularly offensive to the worms, as *assafœtida*, whose smell is said to force the worms from their fastening, mercurial and martial preparations, *cort. peruv.*, and oblige the worms to loose their hold.

To cleanse the internal surface of the intestines, and dislodge worms from their fastening, solutions of alcaline salts, as the *sal sodæ*, *sal tartar*, *sal absinth.* *cremor tartar*, &c. are proper; or borax with bitter infusions; soap, aletics, and Indian pink. The alcaline salts should not be used stronger than to excite a *pungency*

on
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on the tongue, lest they *abrade*, and too much *destroy* the intestinal mucus. The *pulvis sabinæ* externally destroys warts, and internally is a powerful detergent and dislodger of worms; the *sem. santonic.* &c. During the administration of such remedies cathartics of aloes and *cremor tartar*; calomel at night, and any approved purge the next morning; jalap and *cremor tartar* are as effectual as any; or the *pulvis e sena comp.* with *sem. santonic.* or with *pulvis sabinæ*, *vin. aloeticum alcalinum*, &c. mercurials and aloetics; or the juice of fresh squills so diluted, as not to excite vomiting, has an irritating detergent quality in dislodging and evacuating worms. Garlic cut small and given in milk or juice of rue are excellent and safe vermifuges, particularly for children. The *fuccus graminis* has, often, the power of dislodging worms.

When worms are in the rectum, aloetic clysters are excellent, which may be made by aloes boiled in milk, &c. or with *tinctura sacra* and *decoctum commun. pro clystere*, salt, &c. Oily remedies continued, or the *oleum ricini*, fetid gums, sulphureous waters, æthiops mineral, and cinnabarine preparations, and even the bark, frequently dislodge and evacuate worms.

The solution of *mercurius corrosivus sublimatus* has caused the expulsion of worms, and its preparations are likewise recommended; the former,

former, unless much diluted, is a rough medicine, and the latter contains frequently *poisonous* particles. The *mercurius saccharatus* of the Edinburgh dispensatory is safer; and as an evacuant, the vermifuge troches are very effectual, when milder methods do not succeed.

Mercurius saccharatus Edinb.

No. 81. Rx. Hydrargyri

Sacchar. candi rubr. à 3ss.

Ol. still. juniper. gut. xvij.

Tere simul in mortario vitro donec penitus evanescant globuli.

Trochisci vermiculi.

No. 82. Rx. Calomel opt. lœvigati

Pulv. scammon. à 3ij.

Sacchar. alb. 3ij.

Bene triturentur & cum solutione gum. arabici in aq. rosarum fiant trochisci 3j. pond.

No. 83. Rx Calomel, limatur. mart. and cort. peruv. pulv. with honey, made into an electuary, is a very powerful anthelmintic.

The decoctum mercuriale is much recommended by some.

In the flat kind of worm.

No. 84. Rx. Stanni pulv.

Corall. rub. ppt. à 3j.

Syr. simp. q. s. f. bolus bis in die sumend. cum 3ss. infus. amar.

No. 85. Rx Assafœtid. 3ss.

Mercur. dulc. 3j.

Extr. rhæi 3ij.

M. f. pill. gr. j. dosis x. mane & vespere.

Thiere

There was given daily several spoonfuls of honey under the course of this medicine, according to Redi and Le Clerc's observations, which had a very good effect.

All steel preparations are very useful.

Some years ago there was at Paris, and all over France, an *arcane* in the highest esteem, and recommended as infallible in the cure of the tape worm; the inventor, Herrenschwand, kept it many years as the greatest secret, and it sold well as long as it was in his possession. The great fame it acquired, encouraged several gentlemen of the faculty to discover the contents, but without success; till at last Dr. Herrenschwand was pleased to present the genuine composition to a particular friend, with leave to make it public, which is here given with pleasure as an excellent medicine to dislodge worms.

No. 86. Rx Gum. gutt. Gamb. gr. iij. ad vj.

Sal absinth.

Carbon. fraxini aa gr. xv. ad xxv. f. pulvis
mane & vesperi sumendus in cochl. ij. aquæ.

Hæmorrhoids or piles,

Is a varicose tumor and painful sensation in the rectum, or its external orifice, particularly in voiding the excrements.

The causes are: 1. Varices or dilatations of the hæmorrhoidal veins; blood is brought by

the arteries, but obstructed, and stagnated in the venal system.

2. An abrasion of the mucus in the rectum ; or

3. Excoriations in and about its external orifice from acrimony, acrid cathartics, aloes, &c.

4. Compressions on the *iliac* veins from pregnancy, tumors, &c.

Piles are either sanguineous, bleeding ; or blind, as they are called, in which no blood issues.

A *prolapsus ani*, or falling down and elongation of the rectum, and excrescences about the anus, are often mistaken for the piles by the females ; it is necessary, therefore, that the physician should be certain of the case before he prescribes ; or all efforts of cure may prove fruitless.

Persons once having piles, without great attention in avoiding constipation, and coldness in the feet, or other occasional causes, frequently are troubled with recidives.

The *cure* must be accommodated to the species of the disease.

The vessels being turgid, and the parts inflamed, are relieved by bleeding in the arm, feet, or hæmorrhoidal veins, or by leeches repeatedly applied, until the inflammatory symptoms

toms are removed by antiphlogistic and very abstemious diet.

Sitting over, or in, tepid baths of flores sambuci and warm water; or any emollient soft fomentations of mucilages, milk, &c. assist in removing venal obstruction, or retardation; emollient cataplasms of farin. semen. lini, with or without aqua vegeto mineralis, are very useful.

Costiveness must in every species be prevented by electuarium lenitivum, oleum amygdalinum, by æthiops, lac sulphuris, magnesia, manna, stewed prunes, French plums, *electuarium e casfia*, or such mild eccoprotics; avoiding red wines, and astringents.

Pediluvia of warm water and common salt, as they promote a freer circulation in the extremities, contribute to remove the piles, which are known frequently to arise from cold in the legs and feet. When the violence of the inflammation is resolved to a certain degree, the *aqua vegeto mineralis* joined with camphor is an excellent preparation to assist the contraction of the vessels, and allay irritation. Vitriolic lotions are prescribed for the same purpose. An abstinence from all liquid food is particularly useful in preventing and removing the turgency of the vessels.

The excoriations about the rectum are removed

moved by soft unguents; mucilaginous and oleaginous applications, preventing the contact and friction, as much as possible, of the passing excrements.

A liniment composed of litharge 3j. well levigated, acet. eom. 3ij. and ol. amygdal. dulc. 5xiv. is excellent after the inflammation. The aqua vegeto mineralis may be prescribed as a desiccative.

The *sanguineous* or *bleeding piles* have been considered salutary in all ages, and perhaps if moderate, this may be true; but they are certainly disagreeable; and, contrary to received opinions, I have known these haemorrhages, when profuse, lay the foundation of dropsy and other grievous disorders.

The bleeding piles are commonly owing to plenitude of the haemorrhoidal vessels from obstructed menses, or other suppressed excretions, and hard, retained excrements: therefore a cool, moderate regimen, the promoting the suppressed excretion, whether by stool, urine, or perspiration, dry diet, and the removal of constipation, are the principal remedies.

If the haemorrhage originates in relaxation, which most frequently happens to the nervous, tonics will be beneficial; at the same time costiveness must be prevented by the mildest methods.

The

The treatment of the hæmorrhoids or piles arising from compression of the iliac veins during pregnancy, is considered in another place*.

All *aloetics* and *stimulating purges* must be avoided; for by irritation they increase the pain and inflammation; occasion tenesmus, or a constant and fruitless desire to evacuate the excrements.

Prolapsus ani,

Is the falling down, or protrusion of the rectum externally, particularly in voiding alvine excrements.

Causes are, hardened excrements, or constipation, a consumption or depravation of the adeps surrounding the anus, and a relaxation of the elevatores muscles, sometimes conjointly with the sphincter ani.

It is most commonly an attendant on relaxed habits and the nervous; or may arise from hæmorrhoids, tenesmus, calculi, ulcers of the bladder, womb, &c. This disorder is very difficult to remove, and frequently incurable.

The *cure* depends on circumstances.

If the anus has descended and cannot be returned, from swelling or inflammation, and

* In my treatise, The Causes of Death in Childbed investigated, &c.

stricture,

stricture, emollient fomentations, sitting over warm water, should be used. Leeches must be applied, or sometimes it is necessary to extract blood by the puncture of a lancet externally, to evacuate the contents of the tumor. Afterward, by the gentle pressure of the fingers on each side of the tumor, the rectum ascends, and should be retained by compressing bandage.

The aqua vegeto mineralis, or weak solutions of white vitriol, cold bathing the part in a *bidée* may then be used to prevent a future *prolapus*.

Costiveness in all instances should be prevented by emollient laxatives; the diet should be light and nutritious.

The tumor of the anus is sometimes very considerable; because the arteries continually force blood to the part; but from the contraction of the *sphincter ani*, the veins cannot carry it back; the neck of the tumor is surrounded as with a ligature, and the returning veins are intercepted and strangulated.

Gangrene and *mortification* have sometimes been the consequence; therefore, to prevent these direful effects, the tumor, when violently inflamed, must be scarified, as much externally as possible, the blood evacuated, and the

vessels liberated from the threatening danger. This treatment is most necessary, when the disorder is recent, and the inflammation runs high.

Emptying the vessels of the lower extremities by venæsection in the feet, and bark ought not to be spared, to prevent gangrene: it is better by a judicious foresight to avert misfortune, than to wait until it has happened and becomes irremedial.

The *prolapsus ani*, which has been of long continuance, and owing to the repeated relaxation of the part, or from fistula, piles, &c. is seldom cured.

Patients are in the practice of returning the tumor themselves after every evacuation of excrement: if, however, the rectum always descends when the body is in an erect posture, it should be prevented by a bandage, and compress made of soft linen stuffed with wool.

The weight of all the intestines, fat of the omentum, and near the kidneys; the tenderness of a relaxed, weak tela cellulosa; the communication of its cells, which receives the gravitating humors from all the superior parts; which by stagnation or distension in the lower, weaken the elater of the fibres in and about the anus; all account for the pain and obstinacy of the disorder.

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The difficulty of curing the *prolapsus ani* is very obvious: the part is daily in action, the very cause therefore of the protrusion of the intestine constantly remains: check the stools, their hardness then will be a sufficient cause; give laxatives constantly, and the repeated action of expelling the feces confirms the complaint, or produces a tenesmus, or straining by the abrasion of the mucus, or from the acrid discharge which issues instead of mucus.

The cure, though difficult, has been in many instances effected, or the disorder has been much mitigated, by the following or such like remedies, conjointly with a moderately dry nutritious diet, cold bathing the part frequently in the *bidée*, and by astringent lotions applied to the part.

No. 87. Rx. Elect. leuitiv. 3ij.

Æthiop. min. 3vj.

Pulv. crem. tart. 3ij.

Syr. simp. q. s; F. electuarium de quo capiat

Q. N. M. mane & nocte ad adstrictionem alvi
præveniendam.

Rx. Tinct. cort. peruv. Huxhami 3ij.

Decoct. ejusdem 3x.

Elix. vitriol. acid. gutt. xv. F. haustus, ho-
ris duabus ante prandium & cœnam sumendus.

Opiates are contra-indicated; because they retard the descent of the feces, and create co-

tiveness; but in great pain and absence of rest, a few drops of laudanum in an oleous draught may be proper.

Preventing constipation, and bracing the relaxed stomach and intestines, are the most rational methods of cure; but there are sometimes *contra-indications*, easily perceived by an experienced physician, that will effectually forbid, or abridge our expectations, from these sources of salutiferous practice.

The *prolapsus* originating in the consumption, diminution, or depravation of the adipose substance surrounding the *intestinum rectum*, can only be cured by removing the causes; which are commonly great weakness from hectic or other diseases; depraved digestion, chylification, sanguification, and nutrition, œdema, anasarca, diarrhœa, dysentery, &c. &c.

In the fistula in ano, ulcers of the womb or bladder, stone, gravel, &c., the causes of the prolapsus from these sources must be particularly attended to and removed, or no cure need be expected.

Spasmodic stricture of the bladder,

Is an involuntary contraction of the *sphincter vesicæ* resisting the expulsive power of the *musculi detrusores urinæ*, and obstructing the free evacuation of the urine*.

This symptom may arise in the early months of pregnancy from the compression of the uterus; or from stone, gravel, scirrhous, and ulcers of the womb, diseases of the rectum, a thickening of the neck of the bladder, diseased kidneys and ureters, &c.; abscess, ulcer, or tumors, cantharides, &c.; therefore no inconsiderable attention is necessary, lest the case be mistaken and improperly treated †.

The

* Anatomical examination after death.

Aperta cadavera substantiam viscidaam & mucosam, lutum gypscum, arenulas, calculos in vesica & ureteribus exhibent; non secus ac in rerum pelvi, quæ etiam crusta lapidea obducitur: urectres obstructi, callosi, exsiccati. Renes inflammati, purulenti, putridi, lacerati, corrugati, depresso, aridi, tuberculosi, compressi a tumoribus in partibus vicinis.—In vesica sarcoscs, tumores scirrhosi, cancrosi; vel vesica fuit contracta, callosa, cartilaginea, lapidea, crusta obducta; prolapsus uteri, vaginæ, recti. Vesicæ mala conformatio.

† Among the numerous poor who come for assistance on public days, I had a very remarkable instance of a young woman sent by Mr. Hardie, surgeon in Weymouth-street, for advice. The urine had been totally suppressed 48 hours, occasioning the most inexpressible pain. The cure was per-

If the urine has been long retained in the bladder, it can be drawn off by the catheter.

The cure is effected by removing the spasm with antispasmodics; camphor in large doses, oleaginous laxatives, warm bathing, either general or partial, and in cases of considerable pain opiates may be added to the camphor. Medicated bougies to the urethra, and warm fomentations to the lower part of the abdomen are frequently necessary.

Incontinentia urinæ or involuntary emission of urine.

This may arise from a variety of causes; but the relaxation of the sphincter of the bladder

formed by a strong solution of camphor with oil of almonds, nitre, and manna, in a few days.

Many other instances have occurred, in which similar methods, sometimes conjointly with opiates, have succeeded.

* Mr. Samuel, apothecary in High-street, Marybone, had a case of a pregnant woman, who could not void a drop of urine: I was consulted, and discovered the cause to be owing to pregnancy and a relaxation of the ligaments of the womb, by which the uterus as it enlarged pressed on the neck of the bladder. The urine was obliged to be drawn off carefully with a catheter, which I performed repeatedly, and ordered bark and other tonics, which soon removed the cause. In the later months of pregnancy this rarely happens, because the uterus rises.

is the principal cause in the nervous and debilitated.

As the complaint is caused by relaxation, corroborants of bark, steel, or vitriolic acids; cold bathing, and extremely dry nutritious diet, are the proper remedies.

This symptom may likewise arise from an increased action in the renal vessels, by which an immoderate quantity of urine, acrid in quality, is poured forth into the weakened bladder unable to contain its contents ; this happens from a suppression of night-sweats in hectic complaints, and must be treated according to circumstances.

If the involuntary discharge of urine be from a paraly sis of the muscular coat of the bladder, it is rarely cured ; but should be attempted by tonics, volatiles, cold bath, electricity, and an extremely dry, nutritious, warm, invigorating diet.

Pains in the Uterus or Womb.

Many are the causes of pains in the uterus ; which require penetration in the physician to discover ; for they are frequently mistaken for colics, gravel, stone, &c., and of course treated very improperly.

Uterine pains are idiopathic or symptomatic, and may be owing to either diseases of the ad-

jacent parts, as the kidneys, ureters, bladder or rectum, or tumors in the *iliac lymphatic system*; or from uterine inflammation, tumor, ulcer, excoriation of the *os uteri* from a scratch, inversion, moles, distensions or collections of air, serum, blood, stony concretions, hernia, excrescences, scirrhi, cancer, tumors of the ovaria, Fallopian tubes, &c. &c.

The pains of the uterus are situated low in the pelvis, between the bladder and rectum, and always imitate more or less those of labor; or difficulty in menstruation: by the sympathy of the nervous system, however, they sometimes extend their influence to the stomach, occasioning nausea, vomiting, &c.

Pains from efforts to menstruate.

Pains happening in the uterus, at or near the monthly period, are owing to the *ostinate* resisting the natural efforts of menstruation. These pains should not be mitigated by opiates, unless very violent; because by such a practice the menses may be retarded or retained: camphor, yalerian, myrrh, the gum pill, the pulvis e myrrh. comp., pennyroyal, and warm drinks gently stimulating and cordial, but not acid or flatulent, should be ordered.

Pediluvia or feet baths are proper, to facilitate the menstrual discharge, composed of tepid

pid water and a little salt, at bedtime; and the feet and legs should be covered warm, either with flannel or stockings, particularly in the colder seasons. In costiveness the pilula Ruci is useful.

Pains from contractions of the Uterus to force off coagulated masses contained in the uterus.

The pains from this cause are sometimes almost equal to those in child-bearing.

The *pulvis e myrrha compositus*, and camphorated julep, *spiritus nitri dulcis*, or any other gently stimulating uterine remedy, and warm drinks, are proper to assist the expulsion of the offending cause.

If the pains are very violent, recourse must be had to opiates joined with uterine remedies, if no *contra-indication* forbid their use.

Warm emollient injections to the vagina, and carminative clysters greatly contribute to alleviate the symptoms and promote the expulsion of the coagula; but sometimes they require an *obstetric extraction*.

Various accumulations after death have been found in the uterus, which have weighed 100, or 80 pounds weight. I have one in my possession filled with a solid mass the color of the brain, one ovary extremely hard, the other filled

filled with lymph: This extraordinary case will be published, with other curious dissections *.

Præcidentia, Prolapsus uteri, or falling down of the Womb.

The *prolapsus uteri* is the descent of the uterus lower than usual into the vagina; particularly when the female is in an erect posture.

The descention of the uterus frequently occasions impediments in the evacuation of the urine and feces from its pressure on those parts, especially if the uterus be enlarged by tumor.

* Anatomical examinations after death.

A lochiorum suppressione, inflammatio, mors quinto die.

Uterus ingens ponderis 100 librarum qui aquæ subcrevtae octo & viginti pintas continebat, præter quatuor molles.

Uterus octoginta libras ponderans, ichore flavo, materia adiposa & oleaginosa infarctus.

Uterus fere uniuersam abdominis cavitatem implens. Infarctus materia quadam rubicunda: ejus latera partim erosa, adeo ut in pluribus locis ad chartæ tenuitatem diducta essent.

Femina in tertium mensem gravida vapulata marito, pedibusque ad hypogastrium conculcata—Venter dein crevit inæqualiter. Inter difficultissimum partum subita & enormi hemorrhagia in medio tollitur.

Reperitur in substantia lateris dextri steatoma ingens, rotundum tredecim libras pendens.

Uterus ingens diversibus matutiebus farctus, carnosus nempe excrescentiis, membranis, tendinibus, officulis, lapillis, & adeo ut pondus omnium ad quadraginta pondus accederet.

By

By consent of parts it causes nausea, faintness, and other symptoms of relaxation in walking, or exercise.

The causes are sometimes universal debility; but more commonly a relaxation and elongation of the ligaments of the uterus.

The cure. When the *prolapsus uteri* happens from relaxation, and elongation of its ligaments, tonics, as the bark, vitriolic preparations, chalybeates, a dry nourishing diet, and pure air, will be proper. Relaxing drinks, as tea, barley water, broths, &c, must be abstained from.

The cold bath, if no other disease of the viscera forbid its use, will be proper; but it should be cautiously prescribed to females; for I have known instances of cold bathing incontestably producing that most calamitous of all diseases, the scirrhus and cancer of the womb*.

* See my treatise on this subject, and the Letter to Dr. William Hunter, late physician extraordinary to Her Majesty, on the dangerous tendency of medical vanity, occasioned by the death of the Lady Holland, &c., in which is an extraordinary case of the cure of the scirrhus and cancerous ulcer of the womb, and an ulcer in the rectum, which had been given up as a lost case by many eminent physicians. The mode of cure and prescriptions are all given in the pamphlet, and afford sufficient cause for humane physicians never to lose hope, even in the most desperate cases.

Cold bathing is dangerous at or near a certain period.

If bracing remedies should not succeed, the patient must submit to use a cork, or other pessary: but this will be more fully explained in the treatise on the Causes of Death in Child-bed, &c.

On Pains in the forepart of the Head.

The animal functions suffer considerably and are frequently deranged in nervous diseases; different pains of the head arise, which have been treated by medical authors more by the distinctions of names, than by any close investigation of causes.

Pains of the anterior part of the head are of less consequence than in the posterior; because the cerebrum occupies the former, the cerebellum the latter: irritations or compression of the cerebrum produce delirium, convulsions, &c.; but of the cerebellum diminished, and slower circulation in the heart itself.

If continual pain affects the forepart of the head from plenitude, arising from obstructed menstruation, meditation, or strong passions of the mind; venæfection, cathartics, and uterine remedies are eligible.

Depletion, however, will not avail, if the patient be suffered to drink large draughts of diluting

diluting liquors, which is a striking absurdity, though the most common practice in the treatment of plethora *. A drier regimen in plenitude should be, therefore, instituted.

The fumes of vinegar and embrocations are beneficial in promoting a diaphoresis in pains of the head, and they have a vivifying nervine quality. Volatile frictions, æther, naphtha of nitre, l'eau de luce, smelling salts, &c. are all useful in palliating, if not in eradicating, the pain.

If the pain in the head arise from acrimony irritating the membranes, whether venereal, rheumatic, gouty, or scorbutic, &c. the remedies proper for these complaints are to be prescribed; as mercurials, antiimonials, or cinnabarine and other alteratives; vesicators, cupping on the neck, pediluvia of salt and water, or a foot-bath composed of *zij. spt. salis marin.* and three or four gallons of water, to be used for half an hour or more previous to rest at night; which is excellent in all gouty or rheumatic attacks. Where the pain arises from debility and relaxation, *tonics*, and *dry*, but nutritious diet are to be ordered.

* For a more satisfactory demonstration and refutation of the absurd practice of ordering *diluents* where fullness abounds, or *emptying* and *filling* in the same moment, the treatise on Inflammations, and all other diseases of the Eyes, Eyelids, &c. may be consulted.

Pains in the posterior part of the Head.

Intense pain in the posterior part of the head deeply seated, with a low, depressed, and tardy pulse, indicates compression on the cerebellum.

The more such pain is attended with stupor, or comatose symptoms and a slow pulse, so much the more danger is to be apprehended.

The causes capable of producing such alarming effects are many: but amongst the nervous, constant meditation on one object, or continual anxiety of mind, with a debilitated, relaxed constitution, are the principal.

Perturbations of the mind, from whatever source arising, like madness, determine a greater flow of blood to the brain than the veins can return.

The vessels of the dura and pia mater, the cerebrum and cerebellum, in all their various foldings become distended,

Distensions enlarge the whole medullary and cortical substance of the brain, this being compressed on all sides by the skull, seems too large to be contained in its bony cavity.

The sensation of the brain being too large for the skull is common to the deeply studious, sedentary, pensive, and nervous.

The sinuses of the dura mater, though extremely

tremely well calculated to prevent ruptures of the vessels in the brain, yet are only capable of receiving a certain portion of blood.

If the superabundant blood should not pass freely through the internal jugulars and occipital veins, accumulations must necessarily happen in the brain, whose vessels, once over distended, may be liable, from future and similar causes, to a continued state ofurgency.

Vessels once distended may become so relaxed afterwards, that their coats may not be able to resist the impelled fluid; relaxation is the consequence, and a future aptness to continue the increase of their diameters, as may be seen in habitual or chronic ophthalmia, or inflamed eyes.

Thisurgency, according to its magnitude, may more or less occasion symptoms of acute or dull pain, depression of spirits, languor, low pulse, faintings, apoplexy or palsy, &c.; for the nervous powers ill supplied, or obtunded in the brain, must necessarily diminish the vital powers of the heart and arteries, and all parts of the body suffer in proportion as these are affected *.

From

* Among many absurdities, the pretended discovery of the *nervous fluid*, as a substance capable of ocular demonstration, is one of the greatest. The nervous influence is known mostly by its effects; the true causes are too subtle, and perhaps

From the antecedent observations, and on reflecting that dissections after the death of persons long afflicted either with headach; or insanity, demonstrate a turgency of vessels, particularly in the pia mater; a more rational mode of cure may be established, than is hitherto invented.

Not only distension of the vessels, but an acrimonious state of the blood from the perversion of digestion, conjointly with relaxation and debility, cause pains in the head of nervous persons.

In all sudden violent pains of the head, joined with a depressed and slow pulse, bleeding in the jugular, arm, or cupping in the neck, and extracting blood, is proper; unless contraindicated by some momentous cause, as dropsy,

haps will ever be hid, and invisible to human discernment. I have injected arteries formerly, of several subjects, with a very fine, penetrating, minute injection, and have carried my injection so far as to tinge the nerves all through with the colored tincture. By a microscope thousands of fine arteries are seen all through the substance of nerves; where there be arterics, veins commonly accompany them and lymphatics: if this be allowed, which appears very rational, nerves will seem almost entirely composed of arteries, veins, and lymphatics. What a number of false conclusions have been promulgated on the nerves from an ignorance of their structure, even as far as it is really demonstrable? These subjects are freely examined and discussed in the anatomical part of the *Schola Medicinae*.

&c.

&c. in which case depletion by a smart hydagogue purge may be eligible.

The vessels are turgid indubitably with fluids: diminish those fluids, and the turgency cannot possibly continue. Neither bleeding nor purging can effect such a rational purpose, except *pro tempore*, if patients are indulged in their usual quantity of liquids; or, what is still worse, if *diluting liquors* are recommended.

Plenitude or fulness of vessels from redundancy of liquids, and increased arterial action, are allowed to be the principal causes of inflammation, or distension of vessels; evacuations of *bleeding*, *vomiting*, *purgings*, are directed; then, *diluting*, as it is called, or rather *filling again*, in the same breath. How inconsistent! how incongruous! The blood is supposed capable of *dilution* by aqueous liquids; but a number of facts, drawn from experiments, in many disorders, prove the contrary.

Neither in a *turgency*, nor overfulness of vessels from an inflammatory *diathesis*, nor from relaxation of the vascular coats, should *diluting* or over large quantities of drinks be admitted; but in as moderate portions as possible to sustain the patient: the less the patients drink, the sooner the disorder will be cured.

Bleeding patients repeatedly, while an inflammatory buff, as it is called, appears, and

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the starvation schemes indiscriminately applied in various chronic disorders and hectic fevers, are to the full as contrary to sound reasoning, as the *diluting* projects.

Buffy blood will always appear in chronic rheumatism and gout; where no true inflammation exists, and where repeated bleedings would be attended with danger.

You may attempt to *dilute* the blood of pulmonary, hectic, gouty, chronic, rheumatic patients to eternity, were it possible; *bleed* daily, and allow nothing but *vegetable* diet; the blood drawn from the majority still appears *fszy* or *buffy*: a dropsy or incurable debility, and diseased viscera, may be the consequence of such ill projected practices; but no cure of the disorders. The preceding truths have been admitted by many learned physicians; who have been too timid, or indolent, to assist in stemming the torrent of such ill-founded prejudices.

Evacuation by bleeding or purging, therefore, should always be accompanied with much more abstinence from humid food, than is generally practised; by which means the ends of depletion may be obtained; or otherwise it will be, in a great measure, frustrated, and the dilatation of the vessels will continue.

The most effectual *tonics* have their powers
dimi-

diminished by large portions of tea, which act as a fomentation on the already relaxed coats of the stomach and intestines; to admit then such watery regimen is counteracting the very intentions for which *bracers* are prescribed.

Fomentations and warm baths are externally applied to relax rigid fibres, resolve impacted humors, and soften hard tumors; and indeed judiciously by surgeons; but any one would be considered as mad, who prescribed relaxers and astringents in the same case, and in the same moment.

In the nervous headach, when evacuations first, and bracers afterwards are indicated; a dry diet should be uniformly and strictly observed: by these methods the relaxed vessels and fibres of the body will grow more firm, and their particles be rendered more close and compact.

Pain in the posterior part of the head can originate from an effusion of lymph in the ventricles of the brain, by which the pupils of the eyes become dilated, and sometimes immoveable: this is rarely cured. Caustics or fetsons, however, behind the head may give relief in some inveterate cases.

Acrimonies must be also considered, and whatever is irritating must be corrected, or evacuated.

Remitting pains in the Head.

Remitting pains in the head often accompany slight nervous fevers; in which case the fever ought to be primarily considered and removed, by antimonial diaphoretics without *diluents*, volatile saline draughts, and after, the exacerbation is to be prevented by bark, and acid elixir of vitriol, &c. during the remission.

When the remitting headach is attended with a slight fever, and arising from diseased viscera, the cinnabarine alteratives and pulvis radicis valerianæ should be joined with the antimonial diaphoretic, or volatile saline draught. The powder of bark and valerian have, in the slight fevers arising from perturbation of mind and relaxation, produced excellent effects.

Tonics, exercise, and amusements, will be always beneficial.

Intermittent Headach.

The intermittent pain in the head attacks various parts; but more frequently the frontal sinus immediately near the eyebrow.

The pain is acute, tears often involuntary flow, and a strong light is troublesome; dejection of spirits, and sometimes nausea from con-fest of parts, are the vexatious attendants of this complaint. The pain commences periodically

dically every day, or every second or third, in the manner of an intermittent fever, but without its regular stages; for the headache begins without cold shivering, continues without the dry or febrile heat, and terminates without increased perspiration, or sweat.

This pain, when fixed in a small and any particular part of the head, is called the *clavus hystericus*; in general, the part it occupies may be covered with the point of a finger.

The *clavus hystericus* of the intermittent kind has been little understood and worse treated; for vomits, blisters, sweating, purges, cuppings, leeches, and bleeding, have been prescribed; all which remedies are injudicious and unnecessary.

The one symptom, of regular intermission of the pain, points out the type of the disease, and to what class it belongs.

The causes of this intermittent pain appears to be from a relaxation, or by a sharp irritating stimulus, and vascular distension of a part of the frontal, temporal, or occipital muscles, or some of their aponeuroses; but if internally, the *dura mater* itself may be affected *. The peri-

O 3 osteum,

* The opinion of the late Dr. Haller is without foundation; when he asserted the *dura mater* to be insensible. Dissections after death made by myself have demonstrated diseases of

osteum, likewise, may be diseased in a similar manner, which every practitioner of experience knows to be irritable and capable of acute pain, *exempli gratia*, in old venereal attacks, particularly of the nocturnal species.

The cure of the intermittent head-ach should be conducted by the methods the intermittent fevers are cured; but there is a strong objection to *vomiting* in disorders of the head: indeed I am thoroughly convinced such a rough practice is quite unnecessary in every species of intermittent fever, or what is called vulgarly the *ague*.

If milder methods than vomiting can be substituted, and the cure with equal certainty be performed; they ought to be adopted by every candid, unprejudiced, and humane physician.

The succeeding methods have cured intermittents in several thousands of instances, and in many, when all the usual prescriptions have failed, though repeated many months.

Instead of vomiting, the first remedy prescribed is a stomachic purgative to clear the stomach and intestines. This may be composed of rhubarb and ginger, *tinctura sacra*, vi-

of this membrane, which during life caused the most exquisite pain. The great Haller's experiments and reasoning on this subject are by no means conclusive to inquisitive minds.

num aloeticum, or infusion and tincture of senna. All saline purgatives are improper. Afterward, every other night, to prevent costiveness, or remove visceral obstruction.

No. 88. Rx. Merc. dulc. sexies subl. ppt. gr. iiij. vel vj.
Pil. Ruli vel extract. cathart. Dij. M. accurate
f. pilulæ No. xij. quarum sumat j. omni vel al-
ternâ quâque nocte.

On the first intermission of the fever, or head-
ach after clearing the intestines,

No. 89. Rx. Pulv. cort. peruv. 3ij.
Decoct. ejusdem 3vij.
Tinct. amar. 3vij.
Elix. vitriol. acid. 3j. f. mistura, cuius coch.
iiij. larga, secundâ, tertiatâ, vel quartâ quâque
horâ secundum violentiam morbi sumenda, in
doloris capitis intermissione.

This plan has succeeded in numerous in-
stances of the intermittent headache, and even
intermittent fevers. A dry nutritious diet should
be recommended, *tea*, and all slops, or broths,
gruels, &c. should be absolutely avoided; but
porter, or ale with ginger; or a glass of red
port or other wine may be allowed at meals.

If the bark thus prescribed should fail, then
the following prescription will remove the in-
veteracy and obstinacy of the complaint :

No. 90. Rx. Spec. aromat. 5j.
Pulv. cort. peruv. 3iiij. Syr. simp. q. s.
F. electuarium de quo capiat Q. N. M. largæ
O + secundâ

secundâ vel tertiatâ quâque horâ in intermissione doloris capitidis, vel febris, superbibendo coch. iiij. misturæ sequentis.

No. 91. Rx. Decoct. cort. péruv. ʒvijs.

Spt. lavend. c. ʒſs.

Vitriol. alb. gr. j. ij. vel iiij. M. f. mistura.

It has been lately remarked by our learned President of the London College, Sir George Baker, that the bark has not succeeded in curing intermittents; the bark is certainly very often adulterated, which may be one cause of its inefficacy: but for my own part, for above twenty-five years, I have always united other tonics with the *cortex peruvianus*.

The tonics I have mostly depended on are the sal martis, flores martiales, limatura martis, small doses of the vitriolum album, the flores zinci, and similar preparations; all of which, except the prepared steel, should be prescribed in a dissolved form, in order to divide and diffuse their particles, and render them easier on the stomach.

The vitriolum album in small doses, without any bark, has cured great numbers in the ague given in the following mode.

No. 92. Take of chamomile flowers a quarter of an ounce, let them be boiled ten minutes in little more than a quart of water.

Strain off the liquor through flannel, at the same time pressing the flowers.

Pour the liquor into a quart bottle, when cool.

Then weigh out 4, 6, or 8 grains of white vitriol, according to the age, sex, or strength of the patient, which must be dissolved in a glass or marble mortar by rubbing it with the pestle, and adding some of the liquor.

When the white vitriol is dissolved, it must be well shaken with what is in the quart bottle.

Lastly, add a quarter of an ounce of grated ginger, or powdered allspice.

After having first purged the patient with senna tea or Daffy's elixir, rhubarb, or any bitter purge, it is necessary to wait until the fit of the ague is off, which is the space of time between one fit and the other.

One, two, or three table spoonfuls of the above mixture is to be taken according to the age or strength of patients, or violence of the ague, every two, three, or four hours between the fits.

The ague by this means diminishes, every following fit is slighter, and the disorder is frequently cured in a few days, without the bark.

During the time of taking the *vitriolic ague mixture*, the bowels should be kept open by the following pill, especially if the spleen, which is called vulgarly the *ague cake*, or the liver, be affected, circumstances common to agues,

Take of prepared calomel (from Apothecaries' hall in London) 5 or 10 grains.

Rufus's pill one dram; let them be beaten together in a mortar until the powder and the mass of the pill be well blended together.

Then divide the whole into twenty pills.

If Rufus's pill, or what is called the colocynth pill, with or without aloes or cathartic extract, be used, the difference is trivial; but Rufus's pill is best for females.

If the mass of the pill should be too hard, a drop of brandy put to it, and beating it in the mortar, will render it softer.

To those patients who have been accustomed to drink spirits, a little brandy, gin, or British spirits should be added to the vitriolic mixture.

The expence attending the cure of each patient is not, on an average, above four pence or six pence at most, and it is now published, that humanity may have an opportunity of assisting poverty.

A dry diet is necessary, for moisture is a principal cause of the ague; if tea is used, one small dish morning and evening will be sufficient; meat may be eaten, and grated ginger may be always added to malt liquors. This mode of diet in autumn and winter would greatly prevent the ague.

If bark, however, be added to the mixture, which might render it more powerful, half an ounce powdered will be sufficient for that purpose; which makes an additional four pence. At a moderate computation a hundred poor persons may be cured, even if the bark were added,

added, at less than a shilling each, which in the whole would not amount to five pounds *.

This explicit mode of curing the *ague* is delivered for the benefit of those charitable *ladies* or others, who reside in the country, or remote from cities, or who are induced to relieve the distresses of their poor neighbours.

Intermittent inflammations of the eye are more common than is imagined, and are rendered worse by bleeding, purging, blistering, applying caustics or iissues, pultices, &c.: these should be cured by bark, tonics, and dry diet †.

The intermittent toothach in relaxed nervous habits should be cured in a similar manner; in short all intermittent complaints whatever, when arising from laxity of solids, deprivations of the fluids, and nervous debility. There are, however, few nervous cases, that require the *vitriolum album*; bark, confectio cardiaca, and volatile salts; or elixir of vitriol joined with bark and some aromatic, as

* Powdered bark may be had in London from seven to eight or nine shillings a pound; chamomile flowers are about three shillings per pound; white vitriol not above a penny an ounce; calomel prepared twelve pence per ounce.

Rufus's pills, &c. nine pence to a shilling per ounce.

† See my treatise on 216 Diseases of the Eyes.

the species aromaticæ, &c. commonly succeed *.

The subject of intermittents should not be quitted without animadversions on a few prejudices that have prevailed.

1. It is said; that the intermittent fever is often a cure for some other disorder, and therefore should not be hastily cured.

2. That intermittent complaints should be suffered to continue a limited time before the bark is administered.

3. That bark is the specific and certain cure for the ague or intermittent fevers.

4. When *bark purges*, it should be joined with opium.

5. That vomits should always be given some little time before the paroxysm or fit, or in short, it is always the first remedy prescribed in the ague, and even most other fevers.

* I had lately a very remarkable instance in a very nervous female patient of Mr. Hogarth's in Swallow-street, who every night was seized at six o'clock, after tea, with the most excruciating pains in the feet first, then they ascended up the limbs, and lastly to the os sacrum and inguen, taking away the use of her limbs, and occasioning convulsions. I immediately ordered a laxative, and very large doses of bark, species aromat. and vitriolic elixir, every hour or two in the intermission. These means immediately diminished the succeeding fit, and the patient was restored to the use of her limbs, the pains and convulsions ceased, and she was cured in a few days.

I. *The ague is not the cure of any disorder ; but a disease very inimical to the human frame, depraving the juices, relaxing the solids, depressing the spirits, and, lastly, greatly injuring the viscera and their functions, particularly the stomach, intestines, liver, and spleen, &c. which anatomical dissections have fully demonstrated.* To run the risk of obtaining these *injuries* to the human body, in hopes of being relieved from any *other complaint* is too ridiculous even for ignorance, one would imagine, to credit or adopt ; yet these doctrines have been taught, have been credited.

II. *Intermittent fevers, or agues, should not be suffered to continue a limited time before they are cured.* The contrary of this position was supported on the same flimsy grounds of the former article, and points out the same objections. The blood is depraved, and laxer in its texture ; let the *ague relax* it more, say these physicians ; the stomach is weak, relaxed, and incapable of digestion, and the intestines of chylification, render them less capable of performing these necessary functions ; the face is pale, the red particles of blood are destroyed, the spirits are sunk, the muscular actions are all debilitated ; make these calamities *worse* ; and when the patient is reduced to death's door, then administer the sheet anchor, that sacred *dernier resort*, the bark.

I assert

I assert from my own experience, and the experience of hundreds of other practitioners in this country, that the bark, after a stomachic bitter laxative, cannot be administered too soon, nor too often; cut down the disease in the bud, on its first appearance, never suffer it to take root, and all its consequences are prevented.

III. Bark alone is pronounced a *specific* in the ague; I assert the contrary is the case in many instances: hundreds have been cured, in the manner I have already communicated, without a particle of bark, nor am I without hopes of still improving those plans of cure, which have been so successful. Perhaps centaury, wormwood, or other bitters would answer every purpose of chamomile flowers, which is merely a bitter stomachic of no great efficacy.

The *bark alone* is never so efficacious, as when aromatics and vitriolic preparations are added to it; the ague by these modes is cured immediately, often without a second fit; and certainly a prompt, is preferable to a slow languid cure *.

IV. When

* The principal part of these animadversions is calculated more for the Continent, or places in our own country remote from London; in this great city abundance of practice must have confirmed these observations. I have seen the poor in the hospitals of Turin, Genoa, Florence, Rome, Naples, Venice,

iv. When the bark *purges*, it is frequently not inefficacious, as has been supposed; on the contrary, it perhaps carries off from the intestines

pox, and different parts of France as well as Italy, bled in the ague repeatedly, and even in putrid remitting fevers. No arguments I could use with the physicians of the hospitals, could prevail, to induce them to change their bleeding, starving plan, and diluting, though the patients died, in favor of giving small doses of antimonials in *paroxysmo vel exacerbatione febris*, and in the remission, or intermission, *cortex peruvianus*, vitriolic acid, and to direct a dry diet.

Physicians should listen to proposed improvements with candor and humanity, and after reflection by analogy and probable effects of remedies, if not dangerous, should try their efficacy with fairness, and not with an arrogant supposition or wish, that what is not of their own acquisition, may not have merit. I advise my travelling countrymen never to approach the Continent without *James's powder* and *bark*; these have saved many English lives, when the self-conceit and obstinacy of French or Italian physicians would have proved fatal. At Vienna and other parts of Germany, Flanders and Holland, practical medicine, with some few exceptions, is better.

Men acquire a professor's chair, sometimes, before they have written many prescriptions, before they have had opportunities for great practice and experience; in which case all the knowledge they issue is dependent on the caprices, opinions, or, perhaps, fallacies of their predecessors. Men are not capable of teaching, who are not well taught and experienced themselves; and no man can well comprehend medicine by either hearing lectures, or much reading; but by long practical

tines what would diminish its *tonic* effects. Bark does not enter the lacteal system, nor is absorbed by inhalent veins; its *tonic* qualities act on the coats of the stomach and intestines only, which a number of experiments made by me prove. When, however, it continues purging for two or three days, prepared chalk, terra japonica, or extractum ligni campechensis, and some aromatic, should be added; which much better accords with the bracing power of the bark than *opiates*.

Opiates diminish the moving powers, and create costiveness, both which should be avoided in all low nervous or intermittent fevers; for these complaints commonly arise from relaxation, a depraved relaxed texture of the blood, and a weakened force of the arterial system, notwithstanding the pulsations are accelerated.

Vomits in the intermittent fevers, and indeed most other fevers, are unnecessary; they

tical experience, and observations made by himself, on the force of diseases, and power of medicine. Tuition frequently taints the fancy with numerous prejudices, and a deleterious intoxication: but a multitude of experience in practices softens the mind again. Trifling medicines would never be prescribed in important cases, nor powerful remedies in trivial diseases, where knowledge is obtained by experiments and observation.

force

force an immense quantity of blood to the head, and consequently distend vessels, which should preserve their diameters: this distension from vomits in the commencement of fevers, may be a principal cause of the *delirium* towards the crisis; but more of this in another place.

In the intermittent fever, or ague, the viscera, such as the liver and spleen, are often diseased; all judicious physicians know, or should know, that vomiting is contra-indicated in diseased viscera, and unless there be *saburra*, bile, or other matter in the stomach, which cannot be carried down through the intestinal canal, *vomits* should certainly be excluded.

It is solemnly asserted, from experience of thousands, that the ague can be cured always without *vomits*, and the obstructions of the viscera prevented, or removed safely by a small dose of calomel and any aloetic or bitter purgative repeated every other night, after the bowels have been first thoroughly cleansed.

The *liver* or *spleen* being diseased; or the bile ducts obstructed, are the principal impediments in curing the intermittent fever, or ague; therefore removing those impediments by aloetic pills with calomel, or soap with any aloetic, or by *sal diureticus*, &c. are methods commonly crowned with success: I have al-

ways attempted in agues, and indeed all intermittent complaints, the prevention or removal of visceral or intestinal obstruction, by giving *alterna quaque nocte*, while the bark or other tonics were administered, half a grain of calomel, and from three to six grains of the *pilula Rufi*.

When the fit of the ague is expected, a few grains of James's powder, or from the fourth to the eighth part of a grain of *tartarum antimoniale*, so as neither to occasion nausea nor vomiting, are proper, and they should be repeated every two, three, or four hours, to excite perspiration, remove obstruction, and shorten the duration of the cold and hot fits *.

A dram of the true *crude sal ammoniac* dissolved in any proper vehicle, and given an hour or two before the fit, has been recommended as a sovereign cure for the ague; but as I have not tried it, and as I cannot perceive any tonic qualities in the remedy, I have thought it most humane to proceed in the modes which scarce ever fail of succeeding.

* Amongst other mistaken notions, is one which asserts, that antimonials do not excite perspiration without creating nausea or vomiting, repeated trials prove the contrary; unless amongst the very robust and torpid.

Slight temporary Delirium.

Nervous patients are afflicted with slight wanderings of the mind, at times; they are momentary, without fever, and may arise from whatever irritates the brain, either corporeal or mental.

If distension of the œsophagus from air be the cause, by retarding the circulation in the returning veins, carminatives, assafœtida, and other antispasmodics, are useful.

If the slight temporary delirium can be supposed to originate in any acrimony irritating the brain, the cure may be rationally attempted by correctors of the prevailing acrimony, or by mineral alteratives.

Extreme relaxation may be the cause; then tonics and a dry nutritious diet should be prescribed.

Mental perturbation, or violent passions, will kindle up a temporary delirium; when the fury is abated, calmness, serenity, and a determination not to be disturbed by any thing, however provoking, should be recommended:

Drowsiness.

Somnolentia, or drowsiness, indicates compression on the brain; and may arise from full-

ness of vessels, from an overloaded stomach, or from meditation, which is apt to send a great quantity of blood to the brain.

During digestion, or chylification after dinner, numbers are attacked with drowsiness.

This symptom, in hot climates and in Italy, is indulged by rest after dinner without injury.

In colder climates, it is sometimes a prelude to more serious diseases; as apoplexy and palsy, and should be removed by obviating the different causes.

Volatile, a more abstemious diet, evacuants, diaphoretics, pediluvia, exercises, and amusements, are the general remedies against drowsiness.

Stupor, or Hebetudo,

Is a dulness of memory and mind; ideas cannot be recalled or commanded without unusual exertion. Patients seem sometimes to reflect deeply, but often cannot express by the tongue their conceptions.

Causes.—This is sometimes attendant on old age, or continues after inveterate epilepsies, apoplexy, or palsy; or succeeds intense meditation, or any great and long-continued violent exertions, or passions of the mind.

Hemlock, opium, or other narcotics, have produced this symptom *.

Prognostic.—When the stupor is recent or accidental from the use of opiates or narcotics, it is easier cured by an abstinence from those medicines, than in cases arising from an impaired mind, apoplexy, or palsy; for these latter, in progress of time, end fatally, with or without convulsions, lethargy, &c.

The *cure* requires an investigation of causes and their removal. Volatile salts, the sal succini, antimonial diaphoretics, cupping, frictions, blisters, pediluvia, evacuants, as diuretics, cathartics, and diaphoretics; or alteratives of the cinnabarine kind, if from acrimony, are to be administered.

Watchfulness, or Pervigilium,

Is the defect of sleep, or a solicitude for sleep without acquiring it.

The bodily *causes* are, every depraved state

* The lady whom I cured of a cancerous ulcer of the womb, and who was the subject of the letter against Dr. Hunter on Medical Vanity, had taken only small doses of hemlock by Drs. Fothergill and Hunter's order: this medicine produced such loss of memory, that while she had a bit of light pudding on a fork in her hand, she called for her dinner, and it was with difficulty she could be made to swallow her food, when she had it in her mouth; so impaired was her memory by taking hemlock.

of the blood that can irritate the brain; suppurations, ulcers, &c.; the mental, strong affections of the mind, as love, grief, fear, &c.

The consent of the stomach with the brain may likewise occasion watchfulness by indigestible food, detained wind, &c.

The *cure* is to be attempted by removing the different causes.

If watchfulness originates from bodily pain, unless necessary for some important purpose, light opiates may be admitted. If from mental perturbation, opiates often render the symptom worse, and produce slight deliriums, or convulsions.

When indigestion in the stomach is the cause, light bitter aloetics in mint water are proper, not to purge, but merely to act as stomachatics.

In debility, corroborants are necessary, and a dry diet; if prevailing acrimony is the cause, it should be removed chiefly by rendering the blood more balsamic by the use of metallic alteratives and proper diet.

Frightful Dreams, Incubus or Night-mare.

The nervous or indisposed persons are oppressed during sleep with a heavy pressing sensation on the chest, by which respiration is impeded,

impeded, or the circulation of blood intercepted to such a degree as to threaten suffocation.

Frightful ideas are recollected on waking, which occupied the dreaming mind.

Frequent attempts are made to cry out, but often without effect, and the horrors and agitations felt by the patient are inexpressibly frightful.

These sensations generally originate in a large quantity of wind, or indigestible matter in the stomach of supper eaters, which pressing the stomach against the diaphragm impedes respiration, or renders it short and convulsed. Inflated intestines may likewise produce similar effects.

Worms in the stomach or intestines may, by irritation, prevent sleep.

The forementioned instances are relieved by avoiding all flatulent food, or suppers, and by giving carminatives, bitter stomachics, and laxatives, a little spirits and water, instead of malt liquors, &c.

Worms are to be removed by anthelmintics.

There is another species of the incubus or night-mare, which has a more dangerous tendency, and this arises from an impeded circulation of blood in the lungs when lying down; or too great relaxation of the heart and its impelling powers.

Epilepsy, or apoplexy, or sudden death, are sometimes amongst the consequences of this species of disturbed sleep.

Polypi in the large vessels, aneurisms, water in the thorax, pericardium, or lungs, empyema, &c. are amongst the most dangerous causes.

A slighter cause may be air distending the œsophagus. An overabundance of coagulable lymph in the blood, joined with debility in the arterial system, may give rise to polypose concretions.

This state of blood is common to gouty, rheumatic, and nervous patients, and is no sign, as was formerly imagined, of true inflammation, and experienced practitioners know that bleeding repeatedly has been attended with fatal consequences; for it has produced drop-fies or worse diseases.

If polypose concretions may be supposed, which is not easily known, in urgent cases and difficult respiration, unless amongst the gouty and debilitated, bleeding must be used; afterwards blisters repeated, volatile alcalies, or the *Sal sodæ, ol. tart: per deliquium*, according as circumstances indicate, joined with the bitter infusion, are proper.

Pediluvia of *spiritus salis marin.* ʒij. ad cong. iv. aquæ tepidæ, are proper, particularly to the

the gouty and rheumatic *, to be used successively every night for twelve or fourteen times.

Water in the chest, or pericardium, lungs, &c. is rarely removed; but attempts may be made by antimonial diaphoretics, evacuating cathartics not too freely administered; by chalybeates and other tonics, if they do not impede respiration, blisters to the chest, and a very dry nutritious diet. Tar water has been useful in these cases, and diuretics of the terebinthinate kind.

In the empyema, the purulent matter must be evacuated by the chirurgical operation for that disease; but as the disorder commonly arises from suppurations of the lungs, &c. little success is expected in such calamitous diseases. A long experience has convinced me, that few recover after the empyema, water in the chest, pericardium, &c.

The aneurism either of the aorta, or sub-clavian artery, are always incurable.

The most common cause of disturbed sleep amongst the nervous is a quick perceptibility of mind, and too anxious a concern for what-

* See my treatise on the Gout, and its safe alleviation by this remedy. Since the publication of the first edition I have seen very excellent effects from these bathings; not as a radical cure of the gout, but as a great mitigator of all its symptoms.

ever engages the attention; therefore love, hope, fear, suspense, vexation, grief, or even the contemplation of past pleasures or sufferings, will easily disturb sleep, and occasion horrid or frightful dreams.

When the principal cause is resident in the mind, medicine can afford little relief, except by blunting the sensations with fetid remedies; by mild reasonings, and by a friendly participation of the anxiety that disturbs the patient's tranquillity.

Agitations of the mind, Peevishness or Petulance;

The disposition of human minds often change from bodily indisposition: the best tempers become captious, peevish, and irascible under disease, and the most fierce and tyrannical are frequently depressed, mild, and timid from the same source.

A sharp acrimonious blood, joined with exquisite sensibility of mind, will greatly conduce to the production of feelings distressful to the possessor; slight accidents are magnified into the greatest misfortunes; the soul perceives every thing through a cloud, and no balmy rays of comfort are admissible to such afflicted beings.

A mind agitated and thrown into violent passions from little causes, indicates a depraved

sharp

sharp state of the blood, and great sensibility in the nervous system.

The degeneracy of blood in nervous diseases might have been the principal cause.

Sharp blood produces inexpressible uneasy sensations in the body.

The mind becomes peevish without knowing the cause.

An agitated mind is productive of inappetency, or indigestion, and a depraved chylification.

Depraved chyle produces depraved blood.

Degeneracies of the blood occasion degeneracies in all the fluids, secretions, and excretions.

It is easy to conceive the mind and body becoming reciprocally and alternately the cause and the effect; the effect and the cause of miserable sensations, bursting forth into violent passions.

Irrascibility and petulance appear natural to some particular persons; or rather, they are often acquired by self-indulgence, or the early indulgence of parents and friends *.

* The subjects are pursued more accurately in my *Historia & Schola Medicinæ*, wherin different states of the blood are demonstrated to exist according to different passions of the mind; which throws a great light on human character and its diversities.

Wherever agitations of the mind, peevishness, or petulance exist, they always injure the constitution, and they increase in proportion as they are cherished or indulged.

The state of the body should be considered, and whatever disease it labors under should be removed.

In debility, after proper evacuations, by stomachic laxatives, tonics, and dry nourishing diet; in acrimony or sharpness of humors, correctors, according to the species, are to be administered of æthiops, or cinnabar of antimony and the pulvis e tragacanth. compositus, &c.

Those who indulge themselves voluntarily in agitating their minds without provoking causes, should be well informed, that they embrace the most effectual methods, not only to shorten, but even to render their existence, during life, miserable.

If patients are not determined to be calm, or to moderate their passions by struggling against them, medicine will seldom prove efficacious, however judiciously prescribed.

Nervous patients should, therefore, under these circumstances, never condemn medicine as defective in not being able to eradicate, or counteract the natural or acquired propensities of the human mind, grown inconquerable by too much indulgence, or by long disease.

Changing

Changing the state of blood, however, by mild alteratives, has very much contributed to the cure of what is known by the name of bad unhappy tempers; for the blood being rendered more balsamic and healthful by the removal of acrimony, the sensations of body and mind become more pleasant, and ill humor, with all its aggravating malignity, is gradually dissipated.

Miserable feelings at the happiness of others, or envy with all its poisonous malignity, are certainly more owing to a bad state of blood, and certain form of body, than has been generally imagined; and indeed the countenance of such miserables indicate, by the glance of their eyes, the unhappy sensations of the soul; while pallidness, fallowness, and meagerness, shew the indisposition, and bad nutrition of the body. *Frontis nulla fides* * may be useful to the undiscerning, but not to the experienced and sensible, when applied to the delineation of human character. Penetrating physiognomists comprehend the natural disposition of human beings, after long experience and observation amongst mankind, by a momentary glance, and they credit, or suspect appearances with tolerable certainty. Those who are most inclined to doubt the possibility of detecting human cha-

* Juvenal, Sat. 2: ver. 8.

racter in the countenance are, perhaps, the persons who by artifice wish most to conceal the depravities of their hearts, and who act always in masquerade. A celebrated French author says : *Et l'on n'est jamais si aisément trompé, que quand on songe à tromper les autres.*

Physicians above all others have the greatest opportunities of developing human character ; they see mankind in health and sickness ; under disguise and without disguise, in courts and in sick chambers ; and I am certain, those who make the justest observations, will be most capable of prescribing for the diversities of human nature.

Education, social life, and polite company, will restrain or correct a natural vitiated disposition, but not entirely eradicate the seeds of perverseness and ill humor, nor induce the crafty and designing to be unreserved.

Those who well comprehend human character know, that it is as difficult for the open, generous, and just, to be guilty of duplicity or deceit, as the artful, designing, and malignant to act with integrity, truth, and justice. Cicero says, very justly, *Frons est animi janua* ; no man had greater opportunities of understanding mankind.

J. Baptista Porta has made excellent observations on these subjects.

Lavater

Lavater has distinguished himself as a most exquisite physiognomist; but physicians may carry the subject much farther; for they may discover many causes of human character in the state of the blood, form of body, and mental propensity, independent of original transmission of constitution from parents; or what is attained by education, example, precepts, customs, and different climates: these are subjects little attended to; but the field is immense for deep speculation and curative utility, and well merits the serious consideration of every scientific physician.

The ancients considered, what they called *temperaments*, or various differences of constitutions; but they failed in demonstrations on these subjects; therefore experimental philosophy, chemistry, mathematics, mechanics, hydrostatics, pneumatics, &c. have been, at times, prematurely forced into the medical art, in order to fix medicine to some more permanent standard for practice. Various inquiries of this nature have occupied the attentions of the moderns, but the doctrines of temperaments have been nearly neglected. It is hoped, various temperaments and constitutions, which indubitably exist in nature, will be more accurately scrutinized; for the great lights of the circulation; the known differences of arterial and venal blood; the discoveries made in the lymphatic

lymphatic system, the chemical analyses and other modes of ascertaining the component principles of blood and other fluids of different habits; the discoveries and experiments on the nerves; electricity, air, fire, water, earths, &c. &c., all tend to clear the medical mind of former prejudices. Though attempts to explain the deep causes of human character may be new and difficult, yet if they be pursued with vigor and energy, the whole art of medicine will be rendered more certain; for it would be applied more aptly to the individual constitution of mutable nature *.

The effects of love, grief, despair, envy, hilarity, deep meditation on one subject, in short of all the human passions and sentiments, will hereafter be considered in a manner not hitherto attempted; which may tend more satisfactorily to elucidate nervous and maniacal affections †.

Groundless

* What observations and experiments I have made from considering form of body, state of blood, hereditary dispositions, dawnings of the infantile mind, education, discipline, precepts, examples, customs of countries, powers and effects of climate, dict, laws, religions, &c. &c. shall be unreservedly communicated; and though not so perfect as I could wish, yet it may induce others to pursue the same studies, which will prove an excellent addition to the republic of medicine.

* With regard to the passion of love, the history of Seleucus Nicanor, and Antiochus his son, is a great proof of the penetrating

Groundless Fears and dismal Apprehensions.

The groundless fears and dismal apprehensions of the nervous are truly shocking to their friends, and inexpressibly depressing and melancholy

penetrating discernment of the first great improver in anatomy, Erasistratus.

Erasistratus, the famous physician to Seleucus Nicanor, king of Syria, is an instance what an attentive and skilful practitioner can discover, by observing the features and changes in the color of the face — Antiochus, the son of Seleucus, fell in love with Stratonica, his mother-in-law, wife to Seleucus; but not daring to discover it, he fell dangerously sick with a high fever. Erasistratus, the physician, was called for, who observed, that the presence of Stratonica made great alterations in the prince, whenever she came into the chamber; on the contrary, when other people or ladies came to inquire, no changes were perceptible: he then guessed at the real cause of the prince's indisposition, and endeavored to acquaint Seleucus of the case with great prudence and circumspection. Erasistratus told the king, that the ease of the prince was incurable, as it was caused by a violent love for a woman whom he could not possess.

What do you say? Is there no remedy for my son! said the king. Erasistratus replied, *Sire, you will soon be convinced of it, when I tell you that the prince is in love with my own wife, and I am resolved not to part with her on any account whatever.* Seleucus then took Erasistratus in his arms, and said, *How can you refuse me what alone can save a son whom I so tenderly love!* To this the physician answered, *Great Sire, please to put yourself in my place, would you, royal Sire, give up Stratonica, if the prince loved her?*

melancholy to the sufferers. The oppressed mind is wretched in its present condition, and anticipates a thousand imaginary misfortunes.

Some

Ah, by all the gods! exclaimed Seleucus, if it pleased to them to restore my son to health, and this could be the means, I would with great pleasure cede Stratonica, and give also to him a considerable part of my empire.

Immediately Seleucus declared his son king of Asia Superior, and gave him Stratonica as a wife. The good sense and prudence of Erasistratus must appear very evident. Erasistratus and Herophilus, Tertullian says, had dissected 600 human bodies, in order to get acquainted with human nature. They had sufficient influence with the Ptolemey's to have permission to dissect dead bodies, and, indeed, Celsus says, condemned criminals alive.

Celsus de medicina, lib. i. in proem., expresses himself very elegantly, saying, “ Necessarium esse incidere corpora mortuorum, eorumque viscera atque intestina scrutari: Ion-geque optime fecisse Herophilum & Erasistratum, qui nocen-tes homines a regibus ex carcere acceptos, vivos inciderint, considerarintque etiam spiritu remanente ea quæ natura antea clausisset, eorumque posituram, colorem, figuram, magnitudinem, ordinem, duritatem, molitatem, laevorem, contactum, progressus deinde singulorum & recessus: & sive quid inse-ritur alteri, sive quid partem alterius in se recipit.” — He adds farther a very sensible remark: “ Neque crudele esse horum minum nocentium & horum quoque paucorum suppliciis, remedia populis innocentibus seculorum omnium quæri.”

The opening dead bodies to scrutinize the parts was contrary to the Greek and Roman laws. In the Iphigenia of Euripides is this passage: If any one stain his hand by murder, if any one touch a cadaver or woman immediately after partition, the gods discharge him from their altars as impious and profane.

Many

Some think every night that they shall not live to see morning; others are continually anxious for their children, friends, or on whatsoever occupies their affections; a religious and

Many passages in the Bible prove the great aversion the Jews had for touching dead bodies; the same opinion prevailed in general with all the eastern nations, and in the hot countries, where dead bodies soon fall into putridity.

The good effect of the liberty of dissections, immediately produced a considerable change in medicine; for above all things, anatomical demonstrations purge the mind of hypotheses, fallacies, and imaginary conceits. All the anatomical knowledge of the ancients was chiefly owing to the industry of Erasistratus and Herophilus, under the auspices of that great encourager of literature, Ptolemy Lagus, or Soter.

The sciences cannot be well promoted, except by the generosity of princes; but how few have encouraged the useful art of medicine? How many ages were they suffered to languish without any protector? Louis XIV. must ever be revered for his various institutions at Paris, of which any industrious student may partake without fee or reward. How much more grandeur of sentiment and philanthropy appear in such a prince, than in those who neglect such noble opportunities of immortalising their fame? — One great objection to a medical education at many universities is the impossibility as well as difficulty of procuring dead bodies for anatomical exercises; and I affirm, that no man ever became a complete physician without dissecting with his own hands many subjects: dissection gives a knowledge of the parts, and leaves an impression on the mind which cannot be effaced; these advantages lectures seldom answer, which is often the cause of a deficiency in anatomical knowledge.

pious despondency seize some ; others have imagined themselves dead, and have directed their funeral : in short, the innumerable variety of false images these nervous patients suffer and express, appear little short of insanity ; and they happen frequently to those of the best understandings, joined with great nervous sensibility.

These wretched ideas originate in a distracted mind, from absurd, irrational fears or desires, or from too close and long-continued contemplation of abstruse, deep mysteries, above human comprehension ; from fears inspired by ignorance and fanaticism ; or from bodily debility rendering the faculties of the mind timid, suspicious, and miserable.

When these mournful or dismal apprehensions have originated in the mind independent of bodily disease, they are more difficult to remove than if produced by bodily infirmity.

The cure of the mental wretchedness depends much on the soothing, reasoning, and the consolation of affectionate friends : in religious despair, by the calm advice of a confidential friend or divine, inspiring the despairing mind with hopes, and diverting the melancholy, according as circumstances require ; but, above all, the removal of the patient from the company of ignorant bigots, promoters of false enthusiasm, or gloomy persons.

When

When the body has been primarily affected, and the sensations of despondency arise from debility, the modes of cure already directed for various symptoms may be adopted.

Unjust suspicions of intended mischief are best removed by inculcating or acquiring confidence, removing the causes by change of air, diversions, and cheerful company.

Taciturnity and meditation should be conquered by engaging the patient to converse on favorite subjects; by removing from calm retreats to more bustling and active scenes; by changing the objects of attention, and, if possible, by exciting the passions.

Despondency is best relieved by fortifying the mind with hopes, and chasing away all dismal companions, particularly harsh, ill-judging zealots in religion; by giving active stimulating purges, and by forcing the patient to use exercises even to fatigue. Such patients should be narrowly watched, lest they commit suicide.

Flying Pains.

Flying pains, in nervous patients, may arise from emphysematous distentions of the *tela cellulosa*, rheumatism, gout, acrimony of various sorts, vellicating the nervous filaments, and distending the minute vascular system, or from obstructed perspiration.

The removal of these flying pains depends on first discovering their causes.

In gouty pains, flying in different parts of the habit, nothing is superior to the pediluvium composed of the *acidum muriaticum* greatly diluted with warm water*, unless the patient should have calcareous concretions in the hands, knees, elbows, or feet.

Internally, light antimonial diaphoretics, with camphor and *confectio cardiaca*, or volatiles, according to symptoms and constitutions, are successfully prescribed.

The *flying* rheumatic pains may be treated in a similar manner.

Emphysematous nervous *distentions* yield commonly to laxatives, light diaphoretics, vapor baths, the volatile saline draught, or *spiritus Mindereri*, with cordials, &c.

Acrimonious pains from scurvy, scrophula, lues venerea, &c., require the different metallic remedies, as anti-venereals, alteratives, &c.; which should be very cautiously prescribed for the nervous.

Flushings in the Face, and various parts.

Flushings are very common amongst the nervous symptoms, and appear to arise from men-

* See *Treatise on the Gout alleviated.*

tal agitation forcing a great quantity of blood, which is already acrimonious, to the head and face; or from an irregular action of the fixed air in the fluids, or in the cellular structure of the human body, with obstructions in the returning vessels.

Fixed air, or other air, may act as stimuli, and be useful in the circulation of the blood and action of the fluids on the solids; but like other necessary particles, if over-abundant, may stimulate and increase arterial action, forcing red particles into the cavities of the minute serous arteries, or into the minutest cells of the human cellular structure: hence flushings, heat, and redness.

If mental perturbation be the cause of flushings, acting on the arterial system, a determined calmness, and avoiding every thing likely to disturb tranquillity, are necessary.

If from the superabundance of fixed or other air let loose, and ravaging with force and irregularity through the minute meanders of the human frame, its generation should as much as possible be prevented in the stomach, and its treatment be similar to that of *flatulency*.

Light diaphoretics likewise are proper in such cases, or the vapor baths prepared with nervine herbs, to promote its evacuation through the pores of the skin. A continued mild alte-

rative course acts with more certain, though tedious effect, than all others, not only in changing the blood, but removing obstruction itself.

Sensations of Cracking, or Explosions in various parts.

From similar sources to the last-mentioned symptoms, the sensations of crackings or explosions originate. If in the head, they prove very troublesome; in such cases cupping in the upper part of the neck I have found useful. A puncture in the skin of the leg or arm, or poisonous, infectious matter received in the stomach, have suddenly produced an emphysema; the air has been attracted by the communication of the *tela cellulosa*, and collected in all the external and cellular structure of the muscles, *adeps*, *cutis*, &c.

I have thought, by the effects of cupping in cracking and explosions in the head, that with the blood some of the distending air has been attracted or expelled, by which means the patient has been soon liberated from the uneasy sensations produced.

Imaginary Debility and disinclination to move.

An imaginary debility frequently invades the minds of the nervous: they suppose it is impossible to walk across a chamber without falling. If they be opposed in this unreasonable fear

fear or disinclination to move, some become obstreperous and violent ; others give tokens of grief : are profuse in complaints, and are apt to suppose their most affectionate friends barbarous, when earnestly solicited to shake off these transitory ill-founded conceits.

It is very certain that patients under the dominion of these symptoms only express what their feelings urge : though by observers these false images are plainly perceived, yet in the patient's mind they seem realised, and merit our compassion and attention.

Reasoning, or arguments of surrounding friends, to convince the patients of their erroneous mental images, frequently aggravate the disease : harshness is opposed by violence and vociferation : soothing mildness strengthens the conceits. I have always found it most eligible to observe a middle course in applying to the patient's mind ; neither altogether acquiescing nor denying the possibility of the nervous timidity. When they have dwelt some time on these miserable feelings, some new object starts, the ideal debility and disinclination to move vanish, and the patient suddenly rises, walks or rides, and demonstrably proves the late calamitous apprehension visionary.

It is absolutely necessary for the physician to combat and conquer these symptoms by mildness

ness and persuasion, or indeed according to circumstances and disposition of the patient: good sense will suggest what conduct and behavior is most conducive to answer these purposes, and chace away those ill-founded fears. If they be indulged, patients will remain in bed, or pursue an indolence likely to debilitate their already relaxed habits, or create diseases more dangerous than the nervous.

Diverting the mind, and engaging it to some new interesting objects, will often avail. The application of medicine must be dictated by what has been already repeated. Plethora is to be diminished by venæflection and evacuants; debility requires tonics, and acrimony mild mineral alteratives, according to the prevailing species.

On the Pulses of the Nervous.

The pulses of nervous patients are various; some are slow and firm, others quick and low, yet the patients labor under similar affections.

The conclusions from the pulse, were they regulated by the doctrines in other diseases, would be often fallacious.

To the nervous particularly belong the privilege and power of exciting or diminishing the pulse by the operations of the mind.

Impetuosity,

Impetuosity, irascibility, or peevishness, will quicken ; grief or melancholic ideas retard the contractions of the heart and arteries.

The pulse, therefore, in the nervous is not to be so much depended on as in many other diseases.

Where even acrimony sometimes abounds, the pulse is not weak, nor quickened : in other instances the circulation is much augmented, if not in strength, yet in celerity. *Febres erraticæ*, and even a natural salivation, have arisen from this last source, joined with anxiety of mind. Bleedings, abstinence, and low diet, do not cure, but injure the patient, by lessening the vital powers, inducing additional languor and depression of spirits *.

The strongest pulses amongst the nervous are most favorable ; the quick and weak less : but the intermittent and very slow are most alarming, and indicate more than the others the possibility of present defect, and future ill consequences.

* Bleeding and antiphlogistics, saline evacuants, abstinence, or extreme low watery diet, have been prescribed, from perceiving a quick pulse and transitory heats, but improperly. Neither the heat nor quick pulse arise from plenitude, nor an inflammatory diathesis, but from acrimony, or a lax texture of the blood ; therefore alteratives or tonics, and nutritious foods, are often most eligible. See these doctrines more fully discussed in the Essay on the *putrid, malignant Sore Throat, &c.*

Dyspnæa,

Dyspnœa, or difficulty of breathing.

The dyspnœa is a difficulty of breathing.

In the nervous it most frequently originates from sympathy.

The œsophagus being distended with wind, and compressing the larynx and pharynx, or the stomach or intestines inflated, and acting on the diaphragm, will occasion a difficulty of breathing, and even a syncope, or fainting.

The treatment of the nervous dyspnœa should be similar to the hysterical passion; the symptoms are to be palliated or cured by carminatives, fetids, antispasmodics, and aloetic remedies, lime water, calcined or common magnesia, volatile alkaline spirits, &c.; but the deeper causes should be removed by the more important methods already recommended.

Nervous cough and nervous asthma.

The nervous cough is either sympathetic, from various diseased viscera, and is producible on hearing any other person cough, from agitation of mind, or idiopathic, when the *membrana pituitaria* is affected.

The former generally arises more from affections of the mind, flatulence in the œsophagus, stomach, or intestines, morbid liver, or other viscera irritating the diaphragm, than from any primary disease of the lungs. The latter,

or

or idiopathic, is an irritation of the *membrana pituitaria*, which not only extends over the whole inner surface of the nose, but all through the internal structure of the lungs.

The treatment of both cases will be easily comprehended. Neither repeated bleedings, unless in plethora, abstinence from animal food, nor the extreme low diet which some physicians have so rigorously adopted, will avail in the nervous cough, but relax the habit, and often render the nervous affection incurable *.

The lungs are only secondarily to be considered in the sympathetic nervous cough; as they are more generally irritated to increased convulsive action, by the morbid affection of some other viscus.

As in the dyspnœa, so in the nervous sympathetic cough, the œsophagus, stomach, intestines, are inflated, or there may be diseases of the liver, mesenteric glands, and other viscera; therefore the investigation and removal of the causes of this dry cough must be governed by an attention to the primary disease.

In both the sympathetic and idiopathic nervous cough, assafœtida, joined with alkaline volatile

* I have seen this species of cough treated as a *phthisis pulmonalis*, or pulmonary consumption, which has so lowered and emaciated the patient, as to render recovery very difficult.

salts, or volatile tincture of valerian, mitigate the cough, particularly in the pallid and languid: in the more florid, large doses of camphor dissolved, and united to any aqueous menstruum by means of blanched almonds, or in the following manner, are useful:

SOLUTIO CAMPHORATA.

No. 93. Rx. Camphor ʒss. vel Dij. solve in
Spiritu vini rectificato ʒiiij. deinde adde
Gum. arab. pulv. ʒiss.
Sacchar. alb. Ȑā ʒiss. misce simul denique adde
gradatim aq. pur. ȝviis. f. solutio campho-
rata, cuius capiat coch. ij. vel iiij. ad li-
bitum in dyspnœa nervosa, cum vel sine
aliquo liquore convenienti.

To this mixture, if necessary, may be added *elixir paregoric. tintura thebaica, volatile alkaline salt, &c.,* or very small doses of *antimonium tartarifatum*, according to the nature of the case, the constitution of the patient, and will of the prescriber *.

Opium pulverised, and joined in small quantities with gum benzoin, or frankincense, storax, &c., and received in the form of a light fume, has greatly allayed the irritation of the nervous

* This is a much better preparation of camphor than the julapium e camphora; because in the former the dose of the camphor may be ascertained; in the latter, the finest particles, by the boiling water, fly off, rendering the remedy of doubtful utility, or, perhaps, in a great measure, inefficacious.

cough,

cough, particularly if the respiration be not difficult or weak: the same preparation has likewise proved very serviceable in mitigating coughs from various other causes; when joined with small quantities of *cinnabar fætitium*, in form of a fume, it will probably assist in removing those *tubercula* in the lungs, which are the forerunners of pulmonary consumption.

Oleaginous mixtures united by the volatile alkaline spirit, to which may be added *tinctura thebaica*, under proper restrictions, have produced salutary effects; but oils are objectionable, in general, for nervous patients, as they are apt to relax the tone of the stomach and pall the appetite.

In the *nervous asthma*, opium should be very cautiously prescribed, or wholly omitted. The respiration and circulating powers are sometimes very weak, and a dose of opium, [injudiciously prescribed, has sent patients to eternal rest.

Lac ammoniacum, and the *solutio camphorata*, with the fourth or eighth part of a grain of the *antimonium tartarifatum*, every four or six hours, blisters, volatiles, and fetids, with pediluvia, and even venæsection, in urgent cases, have most availed in removing or palliating the nervous asthma.

In more obstinate and chronic cases, pediluvia, blisters, squills, lac ammoniacum, æther, and

and sometimes tonics, are necessary. \AA ethiops mineral, cinnabarine preparations, mercurial pills of the argentum vivum, &c., with antimonials, are very beneficial as cause-removing remedies in these nervous coughs or asthma.

No. 94. R. Cinnab. fact. ppt. 3vj.

Conf. cynosbat. 3jss. Syr. balsam. q. s. f.

Elect. cuius capiat Q. N. M. bis vel ter in die, superbibendo coch. ij. vel iij. folutionis camphoratae.

Pains under the mediastinum, in the pleura, or diaphragm.

Amongst nervous patients I have frequently observed pungent pains immediately under the mediastinum, in the pleura, or diaphragm: the anatomical consideration of the situation of the pain determines sometimes, though not always, the part affected. If the pain be immediately under the sternum, the disease is seated in the mediastinum, or in the vessels of the heart; if on the sides, in the thoracical muscles or pleura; if pains should extend from the fore and lower part of the thorax to the back, the diaphragm is affected.

These pains have originated commonly from sudden grief; that on the mediastinum has succeeded a kind of sobbing, in which the patient thinks the heart is ready to burst; and there is reason sometimes to conclude, the heart has become

come enlarged from over dilatation, which, in some instances, sooner or later, may be attended with dangerous or fatal consequences.

These symptoms are generally accompanied with a dry cough, and the heart suffers palpitation in the pain affecting the mediastinum, on ascending up stairs, or walking up a hill *.

Those nervous pains in the pleura, or even diaphragm, are commonly more troublesome than serious: they often accompany gouty or rheumatic acrimony, and are to be treated accordingly, by blisters, volatiles, &c.

The fixed pain, originating from extreme grief, or any very violent passion of the mind, immediately in the center of the sternum, requires a copious bleeding to prevent those consequences which a large quantity of blood might create, when directed to the heart by the force of the over-afflicted or agitated mind. The sooner this operation is performed, on any violent gust of passion, or sudden and vehement grief, the greater probability there will be that less injury will happen to the heart or its large vessels.

Blisters, antispasmodics, and laxatives, are advantageous; but preferable to all is the con-

* The palpitation of the heart, and its various causes, are fully considered in the *Treatise on convulsive Diseases*.

solation of affectionate friends, whose participation in sorrow or misfortunes will tend to the alleviation and diminution of the oppressing affliction.

To the methods of cure, already recommended in nervous diseases, may be added the administration of clysters, repeated once, twice, or thrice in the day, which may be detergent, nervine, or alterative. The first, composed of weak solutions of borax, aloetics, sope, in decoctions of detergent herbs, cleanse the rectum and partly the colon, preserving the regular peristaltic motion of the intestines. The second are antispasmodic and carminative, composed of warm feeds in decoction or infusion, weak lime water, or *magnesia alba calcinata vel non calcinata*; these correct and absorb fixed air, and remove flatulency. Weak acid clysters might correct alkaline air. The third, composed of very weak solutions of mineral alteratives, as *Plenk's solution* with sulphurous waters, *antimonium tartarifatum*, &c., &c., carry their effects farther into the constitution, by the absorbing powers of the lacteal system on the surface even of the large intestines. On these new modes of treatment much more may be advanced at some future opportunity.

A

T R E A T I S E

O N

MADNESS, SUICIDE,

&c. &c.

I N S A N I T Y.

THOUGH it was not originally intended to treat on insanity in this performance, yet, as some doctrines drawn from anatomical observations after death, point out modes of cure, hitherto unattempted, the succeeding thoughts are delivered, that those who have opportunities may make trial of their efficacy.

Madness, or insanity, is an alienation of the mind, without fever.

It is distinguished into two species; melancholy, or mania; furor, or raving madness.

The former is known by sullenness, taciturnity, meditation, dreadful apprehensions, and despair.

The latter is attended with a violent and inordinate desire often to do mischief; fury, vociferation, impetuosity of temper, an indomitable turbulence and vehemence; an angry and wild staring look in the eyes, actions rashly attempted, and as suddenly relinquished; obstinacy, perverseness, immodesty, are amongst its characteristic signs.

These are the two general species of insanity; but they are often complicated; and in madness, as in the natural tempers of human beings, there is an infinite diversity.

Various are the opinions on the causes of madness; but *pathemata animi* certainly are the principal, as love, pride, grief, &c. Hoffman thinks it to be a debility of the brain; others suppose it to arise from black blood, diseased liver and spleen, acid humors in the stomach, suppressions of accustomed evacuations, &c. &c.

Venal bleedings, arteriotomia, vomiting, purging, immersion in cold water, hot baths, diuretics,

diuretics, fetons, blisters, the soliciting accustomed evacuations, *diluters*, camphor, nitre, mineral waters, light diet, air and exercise, stripes, soothing words or flattery, and attention to the minds of patients, are the principal remedies prescribed by all authors in madness.

From a contemplation of the plans of cure adopted for madness, it seems, that the disorder has neither been scientifically considered, nor judiciously treated. The general use of evacuants by purging is rational, but *vomiting* and *diluting* are certainly very absurd. The vessels of the head by dissection are found over distended, and vomiting sends up a greater quantity of blood, accumulating evil on evil. Where the vessels are already turgid with blood, the admission of great quantities of *diluting* liquors must add fuel to fire, and increase the fulness; not to mention its incongruity with evacuants. If *evacuating* the vessels be a proper curative intention, *filling* them again must be a contradictory practice, and reproductive of the disease.

The few opportunities practitioners in general have to examine, deeply, the nature of madness, except those who turn it greatly to their emolument, may be the cause of these disorders being little understood. I have attended

some few instances, and have opened the bodies of some mad persons after death, and finding my dissections correspond nearly with others, from these sources of intelligence will some new opinions be advanced on the subject; that those who have the power of attending the insane may, if they approve, apply the methods.

As to dependence on medicine, I have seen enough of the mad to know, that many cannot be prevailed on without violence, namely, what is called spouting, to swallow any; therefore, the manner of treatment here proposed will be derived from anatomical information, and greatly consist in a strict attention to diet, as well as medicine.

Disections of mad Persons.

The dissections of mad persons after death shew various indispositions of the brain and its membranes *.

The

* Appearances from dissections after death.

MELANCHOLIA.

Symptomata morborum.

Extispicia cadaverum,

Melancholia cum capitis do-

Pus in cerebro.

Jore quem sequuntur convul-
siones.

— siti molestissima
ripatur, subito moritur.

Ventriculi cordis infarcti
pituita.

— cum insania.

Venae capitis varicosae.

— take

The veins of the dura and pia mater, cerebrum and cerebellum, are greatly *distended* with dark-colored blood.

The

Sympтомата morborum.

Melancholia tabe confecti.
— in febre cum dolore dorsi, cui succedunt fluxus hæmorrhoidales & corporis tumescentia.

— asthma & tabes dein.

— cum furor, dcin amentia,

— melancholicus gladio sc confudit, sanatur; sed dcin suborto vomitu encatur.

— semet ipse suspendit clavo fenestræ.

— post usum fructuum horariorum moritur.

— cum summo labore.

Extispicia cadaverum.

Viscera abdominis scirrhosa
Pancreas & pulmones purulent, cerebrum turgens coluvic serosa.

Hepat scirrhosum; pectus aqua scatet; pericardium cordi adnatum.

Cerebrum exsuccum & flatum.

Cor marcidum, aqua citrina in pericardio.

Lien putridus.

Pancreas calculosum.

Sanguine nigro turgent venæ encephali, aqua stagnat in ventriculis cerebri.

MANIA.

Sympтомата morborum.

Mania, a lochiis suppressis post septennium oborta, hæmorrhagia uteri sedatur, quam nimis perdurante, impicit ægra.

Sectiones cadaverum.

Uterus passim scirrhosus & passim cartilagineus.

Mania

The meninges have been found ossified.

Congestions called *polypi* and pus, have been discovered in the brain; but this, perhaps, is the effect more than the cause.

The

Symptomata morborum.

Mania succedit *cephalalgiae & animi perturbationibus,* *post se trahit syncopem lethalem.*

~~—~~ *post studia intensa.*

Sectiones cadaverum.

Hepar exiguum, vasa encephali sanguine turgentia, meninges ossae, plexus choroides hydatidosus, & aqua in ventriculis cerebri.

Cerebrum ingens, compactum; vasa ejus sanguine turbida.

In aliis subjectis fuerunt inventae meninges ossificatae, & aqua in ventriculis cerebri; plexus choroides scirrhosus; cerebra perdura; cranii ossa solito multo majora; vermes in naribus.

Pauca depromuntur ex observationibus anatomicis:

Vasa cerebri sanguine crassiori, subatro turgida, colluvies ibidem serosa, plexus choroides muco obductus, glandula pinealis vitiosa.

Cor polypis refertum — abdominis vitia varia. Ovarium steatomatosopilosum repertum — *Miscell. Berol.* iii. p. 16.

Mania. The seat of this disease about the vena portarum *Simson.*

Meninx dura sicca. *Fantoni & Baglivi.*

Lapilli inventi in glandula pineali. A plica resecta tumidum cerebrum, membranæ putridæ. *Haller.*

Polypus in cerebro. *Idem.*

Anatome maniacæ mulieris; 1. in the intestines were found a great many tæniæ and some lumbrici; 2. the mesenteric

The veins of the brain are varicous.

The ventricles of the brain are sometimes full of serum or lymph.

Scirrhosities and hydatides, or rather varices of the plexus choroides, are frequent.

The pineal gland vitiated and scirrhouſe.

The brain turgid with a serous colluvies.

Worms, or rather polypi in the nose, and sinuses of the os frontis.

Polypose concretions in the sinuses of the dura mater.

Various diseases of the viscera, which, excepting the ovaria and uterus, appear more the effect than the cause of madness.

fenteric glands obstructed and indurated; 3. the aliments in the intestinal duct every where of a white color, the chyle not having been yet separated; 4. the intestines very much distended with wind, in some places inflamed; 5. the brain inflamed also; 6. in the anterior ventricles extravasated serum; 7. a large polypus in the sinus falciformis, also in the left lateral, in the right a small one; 8. the whole substance of the lungs full of pus, and scirrhouſe; 9. œdematus legs.

Harmer.

From some disorder of the brain, from hot and acrimonious blood, juices, vapors, but chiefly from yellow or black bile. *Galenus.*

Manie causa. Ab amore, a belladonna, datura, a graviditate, hemicrania, a herpete represso, hysteralgia lactea, sine materia, melaneolia, suppressione, metastaticæ a pathemate, periodica, a plœa resecta, scabie repressa, semine retento, terrore & veneno. *Sauvages.*

In

In what few dissections I have been able to obtain, were the subsequent appearances.

Aurgency of the veins of the dura and pia mater; but of this latter in particular, thro' all its various directions in the cortical and medullary substance of the cerebrum and cerebellum.

A dilatation of the vessels in the plexus choroïdes.

Serum in the ventricles of the brain.

By injecting the internal, external carotids, and arteria cervicalis, no dilatation of the coats, congestions of blood, nor indeed was any blood whatever found in the arteries; but the dilatation and urgency were either in the capillaries, or venal system.

The same circumstance has been observed in the habitual inflammations of the eyes.

Inferences drawn from the antecedent appearances in mad persons.

Passions, or meditation, certainly force a greater quantity of blood to the brain than is usual.

This increased quantity of blood, when moderate, or when accidental and temporary is prevented doing any great injury, by means of the sinuses of the dura mater.

When

When the passions are often repeated, or the mind constantly meditates with great energy, attention, force, or violence on any one object, the veins are constantly in a state of distention, by which means their coats become weakened, and the dilatation, or enlargement of their diameters gradually increase, from the quantity of the blood forced by the arteries into the veins.

The inability of the veins destitute of valves to reconvey the blood to the jugulars, &c. with a rapidity equal to its celerity and augmentation, preserves the distention.

In proportion as the veins dilate to receive the increased quantity of blood, their coats become weaker and weaker, of course less able to make resistance to the augmented quantity of fluid, and less endued with power to force the blood on to the sinuses of the dura mater, or to the larger returning veins. This increased and constant dilatation of the veins may increase the size of the veins considerably in every part of the cerebrum and cerebellum, through all their foldings, and in short in every part containing the pia mater, which is proved by injections to be almost universal in the brain, and all its appendages.

The sinuses of the dura mater themselves may be over distended.

The

The increased velocity of blood in the arteries, and its tardy circulation through the veins may occasion irritation in the pia mater, the same as the ophthalmia causes in the tunica conjunctiva of the eye.

This increased force, or quantity of blood passing through the arteries, may change the blood, and produce vitiated acrimonious fluids in the brain itself. Local contaminations of the fluids are not uncommon in other parts, by which the whole body may become tainted, although the morbid effects shall chiefly predominate in the particular part diseased.

The constant generation of these acrid, vitiated, and irritating fluids, probably, produces those effects called *amentia, furor, mania, insania, melancholia, &c.* creating confusion and absurd ideas in the mind.

After parts have been long accustomed to act with increased energy, and the vessels to suffer reiterated distention, they may continue in a state of disease*, as is demonstrated in the habitual ophthalmia, ulcers, and other diseases arising from vitiated fluids acting on the solids,

* Whoever desires to have more explained on the possibility of local diseases, as ulcers, &c. contaminating the whole body, may consult my treatise on ulcerated legs and their cure, without rest, and on scorbutic complaints.

and

and irritated solids and vessels increasing their forces and acting on the fluids.

An over distended bladder loses its elasticity and contractility, and becomes paralytic; incapable of forcing out the urine, or overcoming the resistance of the *sphincter vesicæ*.

The differences observed in maniacs, as approaching more or less to furor, melancholy, or despondency, may be rationally explained from the natural disposition of each individual mind; the habit of body, the healthful or vitiated powers of digestion, chylification, sanguification, and nutrition; the secretions and excretions.

In debilitated habits, where solids are lax, and the blood serous, the face pallid, with natural slowness of conception or expression, melancholy of different gradations takes its seat.

In strong habits, or where the conceptions are quick, the passions violent, and the expression impetuous, and where fluids and solids approach nearest a healthful state, furor or mania are most likely to prevail.

When constitutions partake of a mixture of health and sickness, of violence and insensibility, of rashness and timidity alternately, the madness may be complicated.

As all human beings think differently, and as the variety in nature is infinite with regard

to constitutions, passions, and propensities, so is madness; every one being mad in his own particular mode.

Pain or irritations from acrimony or distension of vessels in other parts, are conveyed to the brain, and conceived by the mind; but a changed or vitiated state of the fluids, and a continued distention of the veins, in the brain itself, seem to destroy the mind's powers.

The images of the mind create confused ideas, impressions, or false perceptions.

In madness the brain perceives not its own indisposition.

The phrenitis is temporary or accidental, and seems an universal inflammation of the membranes and the brain itself; attacks suddenly and with vehemence, and terminates in a few days; but madness is commonly caused by a gradual, slow, and continued determination of blood to the brain from *pathemata animi*, or meditation on one subject, until the fluids of the brain become, and continue, vitiated.

The immediate connection of the mind with the body, how they reciprocally act on each other, how the sensations are distinctly conveyed, or what are the means by which they are communicated through the nerves to the brain, are objects, however desirable to know, beyond the limits of human comprehension. It is, how-

however, indisputably proved, that the nerves are the organs which receive and convey all our sensations.

It is the nervous system which acts, and is acted on by the mind in all voluntary muscular action. Destroy the nerve going to any part, and the power of motion and sense in the part wholly ceases, or is but very imperfectly performed by means of other anastomosing nerves.

Irritations on the brain produce convulsions.

Compressions on the brain from over distended vessels, fractures, or depressions of the scull, concussions from falls, or any violent shocks, and extravasated blood on the brain, produce delirium, convulsions, stupor, comatose symptoms, loss of sense and voluntary motion, insensibility, and death.

In depressions and fractures of the scull all those fatal symptoms are frequently cured by the operation of the trepan, and removal of compression, extravasated blood or matter from the brain.

Though human knowledge has not yet discovered, nor perhaps never may discover, what the *soul* is, how it operates on the body by means of the nerves, or how the nerves operate on the *soul*, and convey all our will, or sensations; yet an industrious application to

R dissections

dissections after death shews frequently the immediate causes of various symptoms, and even death itself *.

In

* Although dissections in delirium from fevers are not immediately connected with madness, yet from the similarity of symptoms, the fever excepted; I have been induced to add the following appearances found on opening the dead bodies. These dissections shew various affections of the brain and other parts, and the symptoms they produced during life.

DELIRIA.

Symptomata.

Delirium soporem accersit lethalem.

— cum convulsionibus febrem vulneri frontis succedaneam sequitur.

— cum epilepsia.

— excipit capitis dolorem cum febre continua.

— cum spirandi difficultate variolosum cruciat.

— buboni se adjungit.

— in febre ardenti & convulsionibus.

— cephalalgiam comittatur.

— furiosus excandescit in febre chronica.

— cum febre vehementi & dolore circa costas gliae.

Extispicia cadaverum.

Cerebrum durum, concretiones in ventriculo.

Abscessus in dura matre.

Meninges putridæ; aqua in ventriculis cerebri.

Ventriculus tertius cerebri lympha turget.

Pustulæ in bronchiis.

Cor sanguine infarctum.

Pulmones & hepar putridi, cerebrum illæsum.

Tumor cysticus in cerebro.

Hepar durum & ingens: cerebrum colluvie purulenta inquinatum.

Diaphragma inflammatum.

Delirium

In powerful exertions of the mind to produce great bodily strength, large inspirations are

Symptomata.

Delirium in febre tertiana dupli & tumoribus brachii dextri.

— in febre maligna epidemica.

— cum tremore prehendit capitis dolorem.

— puer delirans, floccos colligit, lingua exusta, fæces nigræ.

— cum convulsionibus in febre petechiali.

— cum alvi fluxu.

— excipit colicam.

— post se convulsiones trahens, accedit melancolicum vomitionibus & capitis dolori obnoxium.

Delirium succedaneum capitidis dolori, cum convulsionibus sœvit.

— — in febre ardente.

— — alvi fluxui.

— — item.

— — lipothymia.

Extispicia cadaverum.

Ventriculus inflammatus, vesica fellis aëre turgida.

Aqua in abdomen & encephalo, hydatides in cerebro & hepate.

Pulmones scirrhosi, valvulae aortæ induratae, aqua sanguinea in crano & spina dorsi.

Cystis lympha turgens in cerebro.

Pulmones scirrhosi, pleuræ adnati, omentum & intestina putrida, lien ingens.

Intestina putrida.

Intestinum cœcum putridum.

Omentum exesum, intestinum colon inflammatum.

Abscessus cerebri.

Gelatina circa vasa cerebri. Abdominis inculpata visceræ, hydatides in meningibus & aqua in ventriculis cerebri.

Intestina putrida.

Aqua in capite & spina dorsi

are made, the increased air is retained as long as possible in the lungs, the face reddens, and by the command of the will the bodily powers and strength, for a short space of time, exceed greatly the natural; so that people run swifter, support and carry greater weights, fight with undaunted violence, and strike with an incredible force, and effect surprising things, by summoning a vigorous resolution and mental determination.

The strength to be acquired by the com-

Syntomata.

*Delirium succedaneum is-
churiæ.*

— — — animi perturba-
tionibus.

— — — post capitis con-
fusionem & tetanos sibi acce-
rit.

— — — post cerevisiæ
häustum viget: remediis fu-
gatur, sed dein recrudescens
convulsiones lethales accerit.

— — — post insolatio-
nem oriens, convulsiones.

— — — post casum ab
alto cum dolore in vultu.

— — — pròpinato arse-
nico.

— — — cum somnolen-
tia, & ictero, obscuro hepatis:
dolore post contusionem capi-
tis.

Extispicia cadaverum.

Ren dexter & ureter calcu-
losi.

Hepar inflammatum.

Aqua in ventriculis & juxta
basin cerebri: meningum pu-
rulentiae.

Meninges ossæ.

Cerebrum inflammatum.

Sanguis stagnans in cranio,
cerebri involucra inflammata.

Ductus alimentaris exesus.

Dura meninx & hepar pu-
trida.

mand

mand of the will is astonishing, yet it cannot be accomplished but by a greater determination of blood to the head, and its retention there some short space of time; so as to give the increased nervous energy to all the acting muscles.

Persons of delicate weak habits, in madness or convulsions, acquire such an additional force and *strength*, as to require two or three strong persons to prevent their doing themselves or attendants mischief.

Hence it must appear rational, that the increased force in convulsions, delirium, madness, or any extreme violent actions, in a great measure, depend on a greater quantity of blood flowing to the brain, or particular nerves.

By the command of the will, by passions of the mind, by close meditation, a greater quantity of blood can be sent to the brain than ordinarily flows there, without such intentional influence. Two effects can be produced by this increased quantity of blood in the brain, according to the pleasure of the will, either *stronger* and *sublimer ideas* in the mind, or an *increase of bodily strength* in all the muscles destined to voluntary motion.

According to inclination, human beings, by exertions directed differently, may increase the bodily or mental powers to a surprising degree.

Poetical sublimity, superior reasoning faculties, clear conception, penetration, judgment, a refined imagination and expression, are all the effects of mental, as the exercises of the *palestra* are of bodily exertion.

An over-exertion of both body and mind continued will injure the robustest constitutions; lassitude is the consequence of either; but conjointly exercised, great debility and palfies have originated.

A strong attraction to any particular art, science, or pleasure, an ambitious and constant desire to excell the gross of mankind in whatever is the particular object of attainment, are sometimes attended with symptoms little short of madness, but is denominated ardor, zeal, or religious devotion, enthusiasm.

An over-affection for horses, dogs, music, painting, the chace, flowers, the gratification of amorous passions, or as the French express it, *il est fou de telle ou telle autre chose, il aime à la folie les jeux ou les chevaux, &c.*; or the violent and unremitting pursuit to acquire greater knowledge than others in any art or science, have all produced madness.

Whatever may be the pleasure or object in view, there is in the mind a proneness or propensity, either through choice, necessity, or hope, according to the various tastes of the parties,

parties, for its acquirement, which may aptly be called *mental attraction*.

This *mental attraction*, not always the effect of deliberative reason, but often of chance, example, caprice, or whim, produces all the diversity of tastes, desires, and pursuits discernible amongst society.

While the words and actions of mankind in the different attachments, or *mental attractions*, correspond with the objects of pursuit without wild ravings, loss of sense, or mischief to society, they should not be censured as madness; for every being has a natural and just right to be *suo modo* happy.

These *mental attractions*, when directed to the improvements of arts or sciences, or to render mankind wiser and happier, although they may give a singular cast of character to the possessor, yet merit the utmost respect. A philosophical apathy, or that indolent, torpid state of mind some ancients sought for in vain, could it have been attainable, would have produced an injurious inactivity. The passions, or active principles in the human breast, have invented all that is laudable and excellent; if they have injured in some instances, in others, society have been equally benefited.

The inordinate attention of the mind to objects above human comprehension, or attainment,

ment, may appear, in some measure, ridiculous, though it frequently produces some new discovery; but disappointed love, grief, or any affections of the mind arising from human calamities, imaginary or real, merit the utmost humanity and compassion.

There are *corporeal attractions* that give each individual, in a certain degree, his own particular constitution and apparent character.

Corporeal attractions are the assimilations and adhesions of constituent particles from nutrition, and their conversion into certain states of the blood and body peculiar to each individual, the effect of which is likewise called *idiosyncrasia*.

The fat and corpulent attract and retain, from their daily food, abundance of oily particles.

The thin or slender attract less oil, but more earth and gluten.

The pale attract serous particles of blood in nutrition.

The florid, what composes red particles,

The fallow-colored a considerable portion of coagulable lymph, &c.

These corporeal attractions give the different appearances amongst human beings, as to fatness, leanness, pallidness and floridness, &c.

The mental attractions and character are much dependent on form of body and state of blood.

A gross habit of body produces indolence; flenderness, activity and alertness; pallidness, debility and flowness; floridity, warmth of constitution and quickness of temper*. The rudiments, or *prima stamina* of this natural variety, are formed perhaps in the embryo *ab origine*, while in the uterus, or in the vesicles containing the *animalculum* in the ovary.

All the differences in one and the same disease, amongst different patients, arise from this variety of corporeal and mental attractions. Appearances and symptoms in diseases may be nearly the same, but the sensations are different: a scratch on the finger of a delicate nervous person appears as great a calamity, as a large wound to the robust and more torpid. Sympathy in woe, therefore, or human feelings for the distresses of others, should not be proportioned merely to the magnitude of the evil, but to the acuteness of the miserable sensations perceived in the afflicted breast †.

The

* These subjects are pursued and considered more minutely, with their causes and effects, in my treatise on diet, &c.

† General modes of practice prescribe a variety of remedies in various diseases; but the selection of what is most beneficial, at what times, and under what circumstances, must always

The evident existence of *mental* and *corporeal attractions* comes within the knowledge of every reflecting observer, and is subject to ocular demonstration. The component parts of different human bodies may be analized, and it may be easily discovered, whether oil, gluten, earth, &c. most predominate, with their relative proportions.

From the difference of the natural or acquired *mental attractions*, or cogitations, and the different proportions of the component particles and figures of human bodies; all the varieties and singularities of mankind, whether in health, sickness, or even madness, originate.

These diversities in corporeal and mental attractions give the character, personal difference or identity, and distinguish one human being from another*.

always be left to the skill of the prescriber. All mankind differ; in a certain degree, all require some different treatment.

These observations on *corporeal* and *mental attractions*, and diversities of opinions on one and the same subject, apply more closely to the differences of constitutions in nature, than many written precepts on diseases, which can only give general knowledge, leaving much to discretion. Nature is full of irregularity; what then can be more absurd, than to expect success in physic by following one beaten track or confined routine in practice? ..

* In the animal, vegetable, or mineral kingdoms affinities or attractions can be proved by chemistry and various experiments of *analysis* and *synthesis*.

The corporeal and mental attractions not only differ in each individual, by which one man is distinguished from another; but diet, air, soil, climate, and pursuits, produce different human attractions.

The light air and diet and customs of France produce gracility, and agility of body; cheerfulness and levity of mind; while the swampy bogs and moist atmosphere of Holland and Zealand, Flanders, Lower Germany, give magnitude and slowness of body, seriousness and solidity of mind. These people, though they live not widely distant, are as dissimilar as the snail and grasshopper. A transudation of volatile particles fly through the former, while the latter attract and retain humidity and sluggish phlegm, fat, or coagulable lymph; the causes of these differences are easily suggested and discovered by a philosophic and inquisitive mind.

It must appear evident, that the reception, attraction, and retention of certain particles from diet, air, &c. and the volatilization, or

Particles attract similar particles, and repel dissimilar. All the figures of human bodies, whether tall, short, fat, lean, &c. depend perhaps on original formation in the uterus, and the power of attraction afterward with similar particles, while the foetus or human being is in a state of growth. Different vegetables attract different particles as well as their component parts; minerals have likewise attractive and repulsive powers, &c. See my *Schola Medicinae*.

repulsion of others, give to the human body all its various and peculiar forms, powers, energy, &c.

The *mental attractions*, which are often dependent on the corporeal, in a certain degree, form attachments to favorite pursuits from example, passions, or sentiments in the mind, and direct the corporeal to certain purposes; this may be called *mental attractions* to any art, science, pleasure, or passion. While reason guides the helm of human affairs, and the attention corresponds with the object proposed to be acquired, or the means pursued are rational, man may be pronounced in his perfect senses; but when the objects desired, exceed all bounds of possible acquisition, and yet are pursued with ungovernable assiduity and unreasonable expectation, such a state of the mind is, in a certain degree, folly bordering on insanity.

Various are the species of folly, that have terminated in madness.

Mental attractions to pride, arrogance, insolence, duplicity, falsehood, envy, and malevolence, are all instances of folly; they are the temporary support and the sublimest refinements of little disingenuous minds; but on meeting disrespect, detection, or disappointment, have produced madness in the possessors.

Mental

Mental attractions to strict justice, integrity, truth, and sincerity, are the strongest marks of superlative wisdom, and are the appendages of truly great minds: they generally give a philosophical calmness in prosperity or adversity, and an happiness to the possessor unknown to the artful, treacherous, or deceitful.

It is to be regretted, that in the human affairs of the polite refined ages, artifices are the only weapons to counteract artifice; falsehood and duplicity, falsehood; pride and insolence, haughtiness, or self-assumed dignity; hypocrisy, low cunning and hypocrisy. The books that have reduced these immoral practices to a regular system, instead of applause for their politeness of style or manners, should have been concealed for ever from the face of the earth; for they teach the vicious knavery, and render the upright suspected.

In proportion as the arts, sciences, and luxury increase, so do vices and madness. In countries where the fewest wants and desires are experienced, there are the smallest number of mad persons; in those kingdoms where the greatest luxuries, refinements, wealth, and unrestrained liberty abound, are the most numerous instances of madness. England, according to its size and number of inhabitants, produces and contains more insane than any other country

country in Europe, and suicide is more common *.

In other nations mankind are obedient under either military or religious despotism, and are educated from infants in implicit submission and non-resistance; in Britain every one thinks and acts as he pleases; this produces all that variety and originality in the English character, and causes arts, sciences, and inventions to flourish.

The agitations of passions, this liberty of thinking and acting with less restraint than in other nations, force a great quantity of blood to the head, and produce greater varieties of madness in this country, than is observed in others. Religious and civil toleration are productive of political and religious madness; but where no such toleration exists, no such insanity appears.

The remote causes of madness are various:

Anger, pride, and insolence mortified, malice and envy ungratified, merit unprotected, or crushed by the unworthy; love, fear, hope, disappointment, anxiety, grief, despondency,

* I have examined this matter in France, Italy, Germany, and Holland, but find no comparison in the numbers who commit suicide in those countries and England. Infidelity in a wife rarely makes a Frenchman cut his throat, but has often produced suicide amongst the English, &c. To live in France *a la Parisienne* is common.

avarice,

avarice, and a diversity of human vices, folly, and calamitous feelings, have all been productive of *idiopathic* insanity.

There are accidental remote causes, as suppressed evacuations, metastasis, &c.; this may be called *symptomatic* insanity, and is oftener cured than the former.

It appears from dissection, that an augmented portion of blood vitiated in the brain, or its membranes; coagulation of the humidity in the cortical or medullary substance of the brain, concretions, &c. are the principal immediate causes producing the effects of delirium or madness.

How an increased quantity of blood vitiated in the brain, or a coagulation of the fine serous fluid transuding the structure of the cerebrum and cerebellum, produce such continued different effects in the mind as false apprehension, reasoning and judgment, are questions replete with difficulty; but their investigation shall be attempted. The speculations and reasonings, however, on this dark subject are not delivered as indisputable truths, but merely as matter of opinion, or probable conjectures.

I. The brain has not been proved to secrete any fluid known by the common names of *nervous juice*, *nervous fluid*, *liquidum nervosum*, &c.

ii. No fluid called *nervous juice* or *fluid* has been discovered to pass and repass through the nerves.

iii. Nor is it rational to suppose any liquid can pass and repass with such rapidity as thought itself, either through tubes, supposing they were existing, or by transudation.

iv. The *arteries* pass through all the nerves in every part, internal and external, by means of the *tela cellulosa*, or *pia mater*; this I have frequently proved by minute anatomical injections.

v. Where arteries pass in other parts of the body, veins are generally found; from hence it is reasonable to infer, that minutest veins, as well as arteries, pass through all the nerves and nervous filaments, though the veins cannot be demonstrated, owing to the coagulation of their contained fluids immediately after death, as in the lymphatic system, except amongst those who die of dropsies.

vi. The last action of the arteries in *articulo mortis* is to force their fluids into the veins; the former are empty, the latter filled after death.

vii. The experiments of physiologists to discover the *nervous* fluid, or *liquidum nervosum*, are erroneous; ligatures passed round nerves have only impeded the course of the blood in the

the arterial system, hence tumefaction above the ligatures; and insensibility of parts below.

viii. It appears clearly, that many physiologists have not been deeply versed in anatomical injections, or they never could have supposed tumefactions above the ligatures of nerves, or the loss of sense and motion, any proof of a *nervous* fluid existing; because those effects arise from other manifest causes.

ix. Impeding the course of blood in the artery will effectually produce a coldness and insensibility of a part; an *aneurism* of the subclavian artery, which is only a partial impediment of blood to the arm, produces coldness and wasting to the arm and hand, with loss of motion:

x. Heat, in the human body, is proved to be the effect of arterial action, and its strongest residence is in arterial blood: where arterial action ceases, heat is abolished, and death ensues. Human life depends on heat, and heat on human life; death is the total deprivation of arterial action, absence of heat, and arterial blood in the arteries *.

xi. Arterial action ceases in a nerve on which

* I have formerly injected mortified parts, and found I could push my injections all through the arterial, but not into the venal system; from hence I conclude, that the stagnation of blood in mortifications is rarely or never in the arteries, but in the veins.

a ligature is made; hence, independent of any *nervous fluid*, the nerve below will become cold and insensible, and all its ramifications going to different parts lose their influence on any attempt to voluntary or involuntary motion.

xii. It may hereafter be proved, that *animal beat* and *arterial action* are the effects of certain particles extracted in respiration from *atmospheric air*, and conveyed through every vital, animal, and natural function of the human body.

xiii. Ligatures round the nerves producing a tumefaction on the part of the nerve toward the brain, and the loss of sense and motion in the part to which the nerve proceeds, is no proof of the presence of any *nervous fluid*, because those effects are produced by the destitution of arterial blood, and the pulsatory actions of the arteries; and certainly it is not necessary, nor sensible, to usher in unknown causes as producing effects, when evident facts, juster causes and conclusions, are present.

xiv. In short, not one experiment, hitherto made, proves that the brain secretes a *nervous fluid*, or that any *nervous fluid* passes and repasses through the nerves in voluntary or involuntary sensations or actions; nor is there any such fluid as the *nervous fluid*, of the consistence and manner of action universally taught and generally received.

xv. All anatomists or physiologists, therefore, who have written in their works the term *nervous fluid*, its regular or irregular distribution, force, energy, &c. have advanced what has never been proved to exist. All physicians who talk of the nervous liquid in the human body under the appellation of *liquidum nervosum*, or *animal spiris*, speak at random on an imaginary existence, and without any conclusive experiments or demonstrations to support the supposed substance called *nervous fluid*. Something acts, but what it is, has not been discovered; and it is more candid to acknowledge a deficiency of human science, than to propagate error.

xvi. In this treatise, then, the appellations of *nervous fluid*, *liquidum nervosum*, or *spiritus animales*, have been excluded as non-entities, and the *nervous powers*, *nervous influence*, or *nervous principle*, have been substituted.

The non-existence of the *nervous fluid*, as generally received, has been strenuously urged, because it is of great consequence in medical practice; it may likewise be useful to the fabricators of curious hypotheses on matter, spirit, and metaphysical subjects.

xvii. What subtle matter it is, or whether it is an exceeding volatile penetrating air, similar to that which is supposed to rush through the Fallopian tube, and impregnate the ovum

in coition, giving life to the inert animalcula; are subjects that are more accurately considered in the *Schola Medicinæ*.

XVIII. The subtle matter which pervades, and passes equal to the mind is the electrical fire; but I doubt much, whether the electrical fluid would be impeded in its progress through the nerves by a *non-electric* ligature; indeed, all the conclusions I have been able to collect from electrical experiments, prove the contrary.

XIX. Nor is the nervous influence secreted in the brain acting as a gland; but it is, perhaps, particles of light, or fire attracted with the atmospheric air in respiration by the lungs, and conveyed to the brain in the blood, the brain being only its receptacle; probably thro' an attractive power, similar to other parts of the body *.

The vital principle of heat; or human fire, resides chiefly in the arteries, or in the blood they contain. Mr. Hunter supposes blood alive, not without some reason.

* There is an attractive power *ab origine*, perhaps, in the cells of the adipose tunic to accumulate adeps; in the liver, to receive particles to make bile; in the salivary gland, to attract particles from the blood proper for saliva; in the kidneys, for urine; in the eye, for that pellucid aqueous humor, &c.; in short, all healthful, regular functions are performed by each attracting the properest particles for its peculiar purposes, &c. and repelling or excluding the improper.

xx. It is sufficient, perhaps, for the practice of medicine to know, that all voluntary involuntary sensations and actions are conveyed by the nervous powers, and nerves are large, from the brain itself, proportionably to the utility and magnitude of the sense.

xxi. The senses, as hearing, seeing, smelling, tasting, feeling, are all received and communicated by the nerves; and their abolition is a deprivation of sense.

xxii. Deprive a human being of the nervous power, and a sense of life no longer is perceived by the person: tie a large nerve proceeding to any part, and all communication with the soul is either greatly diminished, or totally destroyed.

xxiii. Irritations on the nervous powers produce convulsions or irregular actions, a quicker pulse in parts, and often confused ideas in the mind; but compressions or ligatures, according to their powers or force, torpidity or total insensibility. The soul cannot act on a part of the body beyond the nerve's ligature.

xxiv. From the acrid or putrid changes produced in the blood during the last stage of fever, or from a greater quantity of blood determined to, or irritating, the brain, either a furious delirium or stupor and insensibility is produced; the regular powers of the

soul being resisted by accumulated or changed blood in the brain.

All diseases whatever are changes of the blood acting on the solids and nervous powers, and these latter again on the fluids.

xxv. There are, therefore, four conditions necessary to the causes of any disease present.

1. Some change of the blood or other fluids of the human body.

2. Irritation of the solids from the changed fluids acting as stimuli in the body, either partial or universal.

3. Increased or diminished action in the whole or part of the arterial system; the contractions of the heart or arteries of parts are quicker or slower.

4. Perceptibility of an universal or partial disease in the mind, conveyed by the nerves of the whole body, or irritated nerves of morbid parts communicating with the brain.

xxv. The soul, therefore, cannot be separated from the body, in either considering, or even having positive intelligence of disease; without impressions on the mind no disease would be felt or described by the patient, and much less comprehended by the physician.

xxvi. Though *Stahl* and his followers were extremely absurd in attributing diseases and their

their cure too extensively to the soul's feelings and powers; yet the mechanical and other physicians, who have denied the mind any power in the affections of the body, have equally erred, which is amply demonstrated in the *pathologia generalis* of the *Schola Medicinae*.

I formerly made a great number of experiments to determine the connection of the soul with the body; as when the faculties of the soul first appeared; how it enlarged in knowledge; what were its properties without the advantages of obtaining ideas by different senses; what were the consequences of the loss of hearing, seeing, smelling, &c. These curious pursuits, though not always rewarded with a complete knowledge of the object pursued, yet opened some discovery unexplored, or at least imperfectly understood.

xxvii. The mind or soul cannot be defined by any other means, than by attentive and close observations on its ostensible effects, operations, and powers in the human body.

xxviii. While the *ovulum* containing the rudiments of the future animal remains in the female ovary, - before the impregnation by the male, what is to form the future man is inert, without any perceptible action whatever of heart or arteries, &c. according to minutest microscopical inquiry.

xxix. When the female *ovulum* is impregnated by the male, the pulsation or *punctum sanguis* is soon after evident; the embryo, in its pellicle or ovum, descending through the Fallopian tube, and taking its residence in the uterus, increases in an evolution of all its constituent parts, and gradually obtaining its perfect form, grows, from being smaller than a pin's head, to a most surprising bulk in the course of nine months.

xxx. During the time that the foetus continues in the uterus, there is no reason to suppose it enjoys any qualities of the soul, which display themselves afterwards: it possesses, perhaps, *stimulum insitum*, or an internal irritability, for the performance of the peculiar circulation of the blood, and some secretions and excretions; but in itself knows nothing of the one or the other; in short, it has no thinking qualities, no ideas of sense or reflection.

xxxI. When the foetus is excluded from the uterus, some operations of the soul appear immediately after the first respiration, after receiving *atmospheric air*; for it cries, and soon shews a desire for food, and will elect sugar in preference to aloes. The circulation of the blood is changed and performed in a different manner; for instead of passing through

the

the ductus arteriosus, venosus, and foramen ovale, the auricles and ventricles receive the blood ; the pulmonary arteries and veins acquire their power of circulating the blood thro' the lungs, &c. in a mode that continues thro' life.

xxxii. The soul seems to have no power until the atmospheric air has rushed into the lungs ; for without this the infant perishes soon after delivery. The air seems to contain the *pabulum vitae* ; but after being received by the lungs, what is emitted by expiration is unfit for the purposes of life, a supply of fresh air being constantly necessary.

For the first month after being in the world, the infant scarcely shews any visible signs of the soul's powers, except in crying for food, and then it sleeps, if not in pain.

xxxiii. Afterward it gradually receives impressions of objects by vision, sounds by hearing, and in process of time imitates the language it is to learn by the soul's powers on the organs of speech, until it is able to articulate guttural, nasal, oral, or other sounds, and distinguishes one thing from another.

xxxiv. Then the mind is impressed in civilized nations with some religious worship, which it is taught to believe to be the only true religion, and that all others are erroneous : these

infantile

infantile impressions very often continue with zeal or superstition through life.

xxxv. The soul afterwards expands, and having collected a store of ideas by the senses, has the power of reflecting, remembering, comparing, and reasoning, by which it begins to form a judgment on men and things. The extent of human knowledge in different men is extremely different; for some pass through life without considering, examining, or performing any thing, except the offices of nature; while others busy themselves in investigating the causes of all the effects they perceive, and produce, by an elevation of sentiment and indefatigable industry, the most important discoveries in different sciences, according to the genius, bent, or inclination of the parties.

xxxvi. The properties of the soul then begin with respiration, and on respiration ceasing the soul loses all its faculties; does it not appear, that it receives constantly something from the atmospheric air we breathe? The soul seems as fugitive as air. It receives all its primary knowledge by its operation to, from, and by the evidence of the senses: it retains what it is taught, can afterwards reflect, remember, reason, judge, always in proportion to the number and diversity of ideas it has received

ceived or collected. Where there be few ideas, the reflection, reasoning, and judgement are proportionably confined; where they be various and numerous, the soul views men and things very extensively. The inferiority or superiority of human understanding generally depend on the paucity or multiplicity of ideas and just reasoning possessed by the mind.

xxxvii. The powers of the soul on the body have been already observed; it can act on the heart, and impel a greater quantity of blood to the head, for either mental or bodily exertion.

xxxviii. The soul's powers in checking or diminishing the heart's action on any sudden intelligence of misfortune; or quickening its action by joy, must be evident to all persons capable of quick feelings or sensibility. Music has similar powers. Handel's funeral anthem has for a short space of time stopped or suspended the circulation in my heart; lively music has quickened it; and others, who exquisitely feel music, have perceived similar effects, though incapable of accounting for the causes of such sensations.

xxxix. The soul can direct a greater quantity of blood to the parts of generation, and create a great turgency in the vessels and cellular structure, and retain the fluids there a considerable space of time.

XL. Violent anger has forced so great a quantity of blood to the head, that the vessels have been ruptured, the blood extravasated, and sudden death has been the consequence.

XLⁱ. The soul itself is some invisible agent, or power acting in various modes on that human matter called the brain, and the soul gradually acquires strength and knowledge by the powers of the senses, but not without human growth, and human industry.

XLII. The brain being the soul's principal receptacle, conveys, in health, the soul's intentions, by means of the nerves, to answer all the functions of life with order, precision, and regularity according to the laws of the animal œconomy.

XLIII. Instead of a nervous fluid passing and repassing all our sensations, either voluntary or involuntary, it seems more probable that it is the soul's influence that pervades, by its subtlety, all organized and other parts; it is the grand conductor as well as governor of all its various feelings and actions.

XLIV. All causes must be equal to their effects, and while the soul's powers are not impeded in the brain or nerves, the invisible agent performs with more or less energy all the necessary mental functions of life; but the organization of the brain being diseased, the soul

is interrupted in its various powers with delirium, stupor, madness, false images, &c. &c.

xlv. The soul's powers, however great in a healthful organization of the brain, cannot conquer the impediments nor diseases of that organ; neither can it perceive its derangement from morbid affections in the brain; mad persons, like the obstinate and superficial, frequently conceive all the world to be in error except themselves.

xlvii. The brain then, that principal organ on which the soul acts primarily, being injured or diseased, resists or prevents the soul's regular impulses, and so conquers it, as to convert a sound understanding into folly and madness, or produce a false association of ideas.

XLVII. The due order and regularity of the soul's influence being impeded, perverted, or prevented in different parts of the cortical or medullary substances of the cerebrum and cerebellum, an irregular influence is the consequence, and the soul's action on different parts annulled; the free influence being obstructed, false images are conceived, false reasonings and conclusions result from false ideas and apprehensions; wild projects, furious ravings, ill-founded fears, strange unusual conceits, violent attempts to do mischief accompanied with incoherent expressions, are the consequences of the brain's

brain's resistance to the tegular influence of the soul.

XLVIII. In the nervous parts remote from the brain irritability is excited by vitiated, changed, and acrid blood acting as stimuli, and arterial action is increased: insensibility is produced by ligatures or compressions of the medulla oblongata or nerves, which are the immediate appendages, and possessing nearly the same structure as the brain. If such effects are producible by evident causes in parts distant from the brain, but immediately under its influence, it is easy to comprehend similar causes producing similar effects in lesions of the brain itself, and perverting all regular influence or perception in the powers of the mind.

XLIX. Though what this invisible influence called the soul is, may remain eternally beyond ocular demonstration, or the utmost limits of the most cultivated human comprehension, yet it must be something sufficiently powerful to act on human matter during life; to increase in strength and energy in proportion as it aptly receives and treasures up true ideas, and exercises its faculties in conceiving, reasoning, and judging, &c.

L. It is clear, that its principal residence is in the brain and nerves, and these latter pervade every part of the body.

In a sound brain the soul performs its functions with regularity according to individual character. The brain being in a morbid state, the animal functions are particularly injured, and false ideas, with all their concomitants, are evident, &c.

L1. The over exertions of the soul force an abundance of blood to the brain, either in attempting poetical sublimity, or pursuing deep and continued metaphysical reasonings and meditation.

This increased quantity of blood, or its acquiring a vitiated morbid change, may cause the brain's resistance to the directions of the soul, and may excite or obtund mental impressions; in the former, fury, and in the latter, melancholy may be the effects.

LII. Poetical fury, or violent tragic action, are sensations excited in the soul bordering on madness, and indeed have produced that disorder.

Enthusiasm is another species, which has frequently terminated in madness.

Love is a passion lighted up in the soul by a mental attraction for some particular object, and has frequently terminated in insanity.

Anger, pride, envy, and all passions or miserable sentiments, what are they, but over exertions of the soul's faculties operating with

augmented; or diminished, energy on the brain?

VIII. Despondency or melancholy seem to be more the effects of relaxation and a diminution of mental exertion, in which the brain is more chronically affected, and less likely to be cured than in the more inflammatory or animated species.

These reasonings or facts duly considered, may not only point out superior methods of treating hypochondriacal or nervous diseases; but also, insanity.

The consideration of the patient's mind is, therefore, of the utmost importance in many diseases, but more particularly in the mental, to form the prognostics; the timid and dejected require an inspiration of courage and hope; or medicine often fails. In the yellow fever of the West Indies I have seen numerous instances of persons seized with that fever, mournfully assert their assurance of dying, and they too often confirmed their intuitive prognostic. This was nothing but fear from others dying daily; and if that apprehension could be removed, patients have recovered.

In nervous diseases and madness the intellectual faculties should be principally considered, and the state of the body previous to, and accompanying, insanity.

Froni

From reflecting on the powers of the arteries in the brain and nervous system, and the influence of the brain and nervous system on the heart and arteries, and the powers of the mind on both; without the union of which human life cannot but very imperfectly exist, the subsequent causes of madness have been deduced:

1. Either by the will; or some accident, a greater quantity of blood has mounted to the brain, or has been retained there, than was agreeable to the laws of the animal œcotomy.

2. The same causes have continued the same effects, whether from continued meditation, or any violent passions of the mind, or accidental suppression of usual evacuations, &c.

3. The minute capillary vessels and the veins suffer a continual distention, either by the increased force of the arteries directed, or repeatedly determined by the will, or from the relaxation of the vascular coats and increase of the venal diameters *.

* In evacuating urine, feces, or flatus; a large inspiration is made by the lungs, and the air is retained there during the expulsion as long as possible, especially in costiveness. During these strong inspirations performed by command of the will, the vessels of the brain have been so over distended as to burst, and the effused blood has caused instant death or a fatal apoplexy. Thus persons have sometimes been found dead in their water closets.

4. This increased force in the arteries, and partial detention or retardation of blood in the venal system, cause a change in the state of the blood within the minutest folds and particles of the cerebrum and cerebellum.

5. This change of blood and its additional weight irritate and change, to a certain degree, all the serous particles of blood in the tela cellulosa, or substance of the brain, and produce callosities by a coagulation of the fluids in the medullary or cortical substance. In the ophthalmia habitualis, or consensualis, the serous particles of the blood, from increased action in the arteries, and distention of the minute veins, become hot, acrid, and irritating: similar effects may be produced in the membranous and cellular expansions through the whole brain and its depending nerves. Local inflammation is very common, local acrimony likewise: does not rheumatic acrimony fix its seat in the tela cellulosa of muscles, the venereal in the periosteum and bones, the gout in joints, the scrophulous in lymphatic glands, &c.?

6. As clear perception, sound reasoning, and solid judgment are observed in a healthful state of the brain and its fluids; so can their alteration or perversion be easily conceived by the effects of acrimony, irritation, and over distension, from febrile heat and friction of their component parts.

7. Anatomical inquiry leads to think, that the delirium in fevers is chiefly owing to morbid changes of the fluids in the brain; putrid *miasmata* produce more dangerous and acute deliriums than perhaps any other: putrid *miasmata* are received by the lungs and stomach; absorbed by the pores of the skin, or by a cut or scratch on the finger; and have contaminated in a very short time the whole body, changing the blood to a putrefactive state; and ending fatally.

8. Phrenitis is an increased action of the solids, with inflammation of membranes and an over abundance of blood in the brain; producing a most dangerous acute fever; raving, delirium, or sort of madness, terminating like violent acute fevers, in a few days.

9. Madness is another species of delirium; chronic, not acute; is commonly slow in its progress, without fever; neither producing the violent symptoms and fatal effects of putridity, canine madness, nor acute phrenitis.

10. Whatever, then, determines a greater quantity of blood, whether it be mental affections, the will; or any accidental suppression of accustomed evacuations, or different species of acrimony, as febrile, nervous, gouty, venereal, &c., may produce temporary delirium, with or without fever, which in an extensive practice may be frequently observed.

11. If the blood has once distended the vessels of any part, a debility or relaxation may remain, and on any future occasion of fulness, passions, &c. they may be re-distended; but particularly the brain; if the same meditations or passions are often repeated, and long continued, which first gave rise to the distention. Where an hæmorrhage has once happened, as in the nose, lungs, uterus, or anus, there is apprehension of its returning by plenitude, accidental coughs, colds, &c.; pleurisies happen to the pleuritic, gout and rheumatism to the gouty and rheumatic, &c.

12. Madness, then, is nothing but the effects of distended vessels, a checked vicious circulation, and changed fluids opposing or perverting the soul's regular action or power in the medullary substance of the cerebrum and cerebellum; in which perception, reasoning, judgment, imagination, and memory reside; as well as the nervous powers over the body for performing voluntary and involuntary motion, &c.

13. What the soul or mind specifically is, has not as yet been satisfactorily accounted for, and perhaps never may be discovered; but it is certain, that morbid changes of the blood, or its over distended accumulations, concretions, indurations, extravasations, &c. in the brain, produce the effects observable in madness, from the prevention or perversion of the soul's powers.

powers. This is perhaps sufficient for human beings to know, to ascertain either the difficulty of curing insanity, or to direct the choice of remedies most proper for the malady.

Prognostics of Insanity or Madness.

From a review of the causes of madness by dissections after death, and the foregoing observations, it will not be difficult to judge in what instances madness is, probably, curable or incurable.

1. When madness is recent, has arisen from fever, accidental suppressions, accustomed evacuations, from metastasis, or any bodily affection alone; there are prospects of curing the complaint by removing the respective causes.

2. If the insanity originate from mental perturbation, violent passions, or any affections of the soul, constitutional or continued long, the cure will be difficult, and frequently impossible.

3. When the vessels of the brain only suffer by distention, reducing them to their original diameters may prove a cure.

4. Acrimony irritating the brain, may be curable by discovering the species: whether scrophulous, venereal, gouty, or rheumatic, &c., and by applying, judiciously, the remedies adapted to each particular species, regi-

men; &c. &c. These four causes of insanity are, perhaps, more common than the subsequent.

5. Preternatural accumulations in the brain from a coagulation of the fine serous particles, which transude through the minute structure of the different regions in the cerebrum and cerebellum; foldings, circumvolutions, windings, fissures, connections, various cavities, &c., scarce admit of cure; because the effused thickened fluid requires liquefaction by resolvents, and absorption; which, though possible in the external parts of the human body, when arising from contusions, &c., yet in the brain the success of any medicaments must be extremely doubtful, having no assisting muscular powers to agitate and promote the impacted blood from the less elastic and debilitated vessels.

6. Bony exostoses, or concretions, or preternatural substances, as polypi, &c. are irremediable, could it be ascertained that they exist in the brain, which, however, is impossible; but these are rare cases.

7. A preternatural dryness and diminution in the brain, or a paralytic affection of the coats of vessels, &c., are in general incurable, which may be easily conceived from the prognostics in palsies of other parts of less dignity than the brain.

8. Indurations of various parts of the brain are, when confirmed, incurable, or at least, extremely difficult to remove.

9. Maniacs of a florid complexion have been known more frequently to recover, than the pale melancholic; the reason of which may be, that the former only suffer from distention of vessels, the latter oftener from concretions in the brain, &c.

10. Hereditary madness, or the disorder being caused by an ill-shaped head, as the *cilo* or steeple-crowned, are generally irremediable.

11. The difficulties medicine has to counteract in attempting the cure of maniacs, must be manifest from the appearances of the brain, &c., after death; its utmost efforts may prove fruitless in many instances, the cure, from analogical reasoning, being sometimes altogether impossible; in others uncertain, and in some only probable.

These prognostics are drawn from considering the importance and soft structure of the parts diseased, the difficult access of medicines or their powers to parts contained in such a bony receptacle as the skull; the difficulty of drawing off blood from the various parts of the brain, which may be affected; and lastly, from experiencing an opposition in changing the natural tempers of human beings in health;

much less then can disorders of the soul be removed, when deprived of calm reason, reflection, and true judgment.

On the Cure of Madness.

The first thing to be considered in the cure of madness is, the cause which gave rise to the disease, and its rational mode of removal; secondly, the constitution of the patient, whether flacid, plethoric, and healthy otherwise; or pallid, debilitated, and cachectical. The former require profuse evacuations and abstinence; the latter deobstruents, and perhaps in many cases tonics. Thirdly, the force of the disease, and temper of the patient: the rash, impetuous, and mischievous must be restrained by the strait waistcoat or chains, and exciting fear by the menacing aspect, or the acquired and determined authority of the keeper or attendant: the low and melancholic require rousing, soothing, and amusement. The practical domestic management, however, of the insane is well known to several gentlemen, who receive and humanely attend those melancholy diseases.

The cure of madness, when arising from suppressed evacuations, requires the solicitation of whatever is obstructed, as the haemorrhoids; menses in women; perspiration, or alvine fæces, &c. Although

Although it is much doubted, whether madness ever arose merely from suppressed hæmorrhoids, without the junction of some other efficient cause, yet, if such a circumstance should happen, opening the hæmorrhoidal veins with a lancet, or bleeding with leeches, would be proper.

Irritating aloetic purgatives, or centaury, &c. would likewise promote the flow of the hæmorrhoids.

If, however, the suppressed hæmorrhoids or piles occasioned insanity, from a turgency of the blood vessels in the brain, bleeding in the jugulars, or even in the arm or leg plentifully, observing for a considerable time a very dry diet to prevent repletion, would most probably succeed.

Pediluvia are likewise necessary.

Suppressed menses are reproduced by remedies adapted to the constitution.

If the suppression originate in debility, with a very pallid countenance, aloetics and the gum pill, night and morning; and chalybeates, not of the heating kind, are useful, particularly the flores martiales with bitters, &c.; other steel preparations in some constitutions affect the head, and are improper.

If the suppression should arise from an inflammatory diathesis, with floridity of face and plenitude

plenitude; bleeding, alkaline salts, sal diureticus, &c. may be prescribed, and occasionally a faint evacuating purgative.

Pediluvia of salt and water, repeated two or three times a day, an hour each time, in either instance of suppression, are adviseable.

Suppressed menses, from obstructed uterine vessels, or coagulations, or congestions in the lymphatic system, cannot with certainty be removed, but by mercurials, either prescribed, as evacuants or alteratives. See *Chlōrosis* and *Suppressions of the Menses*.

The obstruction of the lochia after parturition has produced insanity, and this happens to some women during every childbed period. The removal of the effects of obstructed lochia depends on circumstances, and should be treated differently in different subject *.

These cases of madness commonly cede to a skilful application of medicine, of the deobstruent, uterine, or evacuant class.

The milky mania, or that delirium which has been succeeded by melancholy or madness from suppressed secretion of milk, should be treated by venæsection, evacuants, and blisters, if no contra-indications forbid their use; purging particularly is useful, and antimonial dia-

* See treatise on The Causes of Death in Childbed, investigated, &c.

phoretics, as small doses of *tart. emet.* with nitre, and camphor to 10 or 15 grains every four or six hours. When I formerly practised midwifery, I have known these methods remove insanity.

Those women who are attacked with a maniacal affection after the birth of every child, commonly acquire their reason, by skilful management, in a few weeks or months.

Nasal hæmorrhage being customary, on being suppressed, has caused a maniacal affection; bleedings in these cases are necessary in the *jugular, occipital, angular, frontal, or nasal internal vein*, if possible; for these four last veins communicate with the *sinuses and veins of the brain itself*; therefore, more promptly evacuate the blood from the part affected, and should be particularly attended to in *sanguineous apoplexy, epilepsy, and maniacal affections**.

Irritating the internal part of the nose by a feather or straw will likewise produce the nasal hæmorrhage, which is superior to sternutatories or snuff, as the violent action of sneezing, in a plenitude of the vessels of the brain, has ruptured a blood vessel, and proved fatal.

* See the origin and progress of the arteries, sinuses and veins of the dura and pia mater, cerebrum and cerebellum, accurately described in the *Schola Medicinæ*, with copper plates.

A *nasal hæmorrhage* often cures that most violent of all deliriums the *phrenitis*; and all experienced physicians must have observed, that a very small portion of blood issuing from the nose in the deliriums accompanying inflammatory or other fevers, has immediately brought the patient to perfect sense and reason.

In maniacal affections it appears very rational to pursue a similar mode: it is, however, difficult or impossible, perhaps, to evacuate a sufficient quantity of blood occasionally from the nasal, frontal, angular, or occipital veins; but anatomy certainly demonstrates the communication of these veins with the brain itself, and when it is supposed aurgency of cerebral vessels is the cause of madness, nothing can appear more rational than to *deplete the vessels of the part*, and restore the sinuses and veins to their original size by a very great *abstinence from liquid foods*.

If the suppression of accustomed perspiration or costiveness have occasioned madness, diaphoretics of antimony and camphor, or purging, are indicated. See *Costiveness and Dry Skin*.

If perspiration should be wished in the head, the fumes of vinegar and water in a large basin, and covering the head, will produce a plentiful evacuation of perspirable matter.

Pediluvia

Pediluvia of salt and water, or tepid vapor, or water baths, will answer the same purposes.

The cure of madness from a perturbed mind, or passions long indulged, is to be attempted by the apparent gratification of the desire, or sometimes opposition, as far as mental cure extends.

Anger, whose intemperance is augmented by opposition, is easiest calmed by silent neglect.

Pride, which commonly assumes great superciliousness and arrogance, and pretends to mental or bodily qualities it seldom possesses, is best soothed by affected obsequiousness and adulation.

Mad pride renders the possessors in their own imagination, persons of very great consequence. The proudly mad conceive themselves emperors, kings, or great personages, generals, rich merchants, &c., and they are generally tyrannical, pompous, observe a reserved, distant behavior, and expect great homage; which if they receive not, are ferocious, vindictive, revengeful, or sullenly mischievous.

Pride in those who are not infane, is generally the concomitant of folly, and is commonly used as a masked battery to cover the defects of the mind, or acquire importance amongst

amongst the undiscerning vulgar : it is pitied by true wisdom, and ridiculed by wit.

Envy, which ever maliciously indulges itself in the misfortunes, mistakes, mental, or bodily defects of others, is happiest in hearing scandal and detraction, especially against those whose superior excellence is marked and acknowledged by mankind.

As its highest enjoyment is the misery of others, so its most pungent sensations of horror arises on viewing any elevation of sentiment or happiness.

Avarice or covetousness, which never enjoys what it possesses, but thirsts after wealth with an inordinate desire and sedulous attention, is rendered most easy by the contemplation and expectation of future Peruvian mines.

Disappointed expectation is no unfrequent cause of madness ; or hopes frustrated, that have been long dwelling on future acquisitions*. What is more disagreeable to the human mind than long suspense, or alternate hope, fear, and apprehension ? Desperate attempts at suicide are often the consequences of disappointment : there is no remedy but setting bounds to human desires, many of which are chimerical and un-

* It was remarked, that on account of the famous South Sea bubble many, who were ruined, became mad.

reasonable ; but this is only practicable before the approach of insanity or desperation, which, when present, never listen to reasoning advice.

Love, that fiery flame, when lighted up in the human breast, consumes its votary, if not gratified with the object of *mental attraction*. It is a passion the least of all, perhaps, governable by reason, and when productive of insanity, which, in proportion to its violence, it is most approximate, is commonly incurable.

Jealousy is a sensation of suspicion, where the greatest confidence is expected. In both love and marriage it has produced suicide : its remedy is indifference to the object adored, or a philosophical resignation to infidelity. In France, and other warm countries, infidelity in a mistress or wife is treated with levity or laughter ; in England, with sober sadness, detestation, or self-murder.

Misfortunes in life, if nearly producing madness or desperation, are only curable by a timely alleviation of the present or expected distress. If from domestic unhappiness, from children or relations, vexation has produced madness. An apathy of soul feels nothing except for self ; but great philanthropy earnestly engages in the conduct and welfare of all mankind, and has thousands

thousands of emotions and fears unknown to
the insensible or torpid.

A nice sense of honor has produced rash suicide, or insanity from the most exquisite feelings; where such sentiments exist, nothing can be more inhuman than to torture them; they are the companions of the most elevated and noble minds. There have been instances of officers in the army committing suicide on only receiving a sharp reprimand for some trifling omission, from a superior officer. The experiencing neglect or harsh treatment from relations or friends, where affections have been warm, have produced shocking instances of misery and insanity.

Unjust persecutions are amongst the causes of madness. In this country of liberty, men of superior rank or fortune, even if accompanied with haughtiness, pride, or a malignant disposition, have very little power to gratify malevolence; the greatest as well as the lowest being equally amenable to the law. In other countries, superiors either in rank or profession have great power over inferiors. The modern education and philosophy have, however, softened the ferocity of all ranks; but yet, there are too many instances, where, if mankind have an opportunity of doing mischief

one to another, they seldom want the inclination*.

The

* An anecdote of the medical kind, though it gives no lustre to the professional character of the party, yet ought here to be mentioned, as a most inhuman trait of a man, who has figured in an elevated medical situation.

While I was at Vienna, the following story was recent :

Baron Van Swieten, physician to the late empress, considered by many not the most successful practitioner, and who all the world knows, was a rigid Boerhaavian, had attended a lady of some rank in the dropsy, and the Baron followed the Boerhaavian doctrines implicitly, but without the least success, and declared the case *incurable*; asserting, that any physician, who *undertook the cure* deserved the appellation of *ass*. Dr. Hirneis, a popular physician in that city, much esteemed for his humanity, skill, and gentleness of manners, was called, and soon cured the patient by methods *not mentioned in Boerhaave*. The lady wished to recompense the worthy doctor, but he declined accepting any pecuniary reward, and only requested the patient to go to Baron Van Swieten, and prove by ocular demonstration, that the *ass had cured what the ox could not*, alluding to the overgrown pride of the court physician. The Baron, inflamed at the cure being performed by methods he was unacquainted with, meditated, and accomplished the destruction of the doctor for curing the patient, contrary to his opinion and prognostic. The Baron had sufficient power with the Empress to have Dr. Hirneis banished from that city to Passau, by which the unfortunate man lost all his practice, and he, with a numerous family were reduced to poverty. On the death of the empress the present emperor was applied to, in order to recal the banished doctor, who had been in exile twenty years. The emperor, perhaps, not being disposed to shew disrespect to his imperial mother's me-

The persons most capable of gratifying rancor at the expence of honor or justice are the haughty, proud, mean, and envious. The ob-

mory, or to her favorite physician, denied the request; but after the death of *Baron Van Swieten* the exiled doctor was suffered to return to Vienna. In his twenty years absence his principal friends had died; he soon found his practice was unlikely to be restored, and he expired a short time after at Vienna from extreme grief, or, some say, by a shorter means. Thus an able practitioner fell a victim to medical success, through the mortified pride and tyranny of a powerful, but mean, *court physician*.

In a learned profession like ours, the very basis of which should be founded in gentleness, humanity, and the perfection of acquired excellence and science; no such narrowness of soul should exist, as to be envious at the success of another. Wherever the dawnings of industry and superiority of medical knowledge appear, they should be cherished, protected, and brought forward, to benefit society. In this happy country of liberty, physicians are upon a more equal rank; real abilities, and successful practice, will always procure friends and protectors, which no professional envy can crush; nor can court edicts be obtained to banish useful physicians from serving mankind in the manner most agreeable to their skill and inclinations. The royal college of physicians in London alone have the power of interdicting improper persons from practising within seven miles of this metropolis; but it is hoped the censors of that learned body never have, nor will exercise such power, from personal pique, or envious motives; but on the liberal principles of the *salus populi*, in the suppression of quacks and impostors; for which purpose charters were granted, and extraordinary powers delegated.

jects

jects of persecution are those, commonly, who excel in mental; or who acquire great reputation from real merit, liberality, and probity.

The remedies against malevolence are patient forbearance, perseverance in rectitude, foresight of future mischief, and a manly opposition to its wily snares, and low-cunning inventions. Integrity, discernment, and resolution are terrors to the proud, mischievous, or designing, and formidable shields against artifice, dissimulation, or unjust persecution.

Where an exquisite sensibility pervades the human frame, without a masculine habit of body and mind; long-continued vexation has been productive of insane grief, melancholy, and suicide.

The *consciousness of immorality* has caused despondency, desperation, and, lastly, insanity or suicide.

Injustice, cruelty, or murder have tortured the perpetrators and actors with the most pungent mental torments. The paths of strict justice are straight and happy; those of injustice, low cunning, and deception, full of dangers, disgrace, or mazed perplexities. True wisdom always pursues the former; left-handed wisdom, with various degrees of artifice, the latter. The recollection of barbarity or injustice, though it may have answered a temporary

interested purpose, has stung the parties afterwards with remorse, horror, despair, melancholy; they have been haunted with a thousand hideous imaginary spectres. Medicine seldom avails here, when the guilty mind, preying on its own depravity, has become insane.

Change of situation, reparation of injuries, the conversation of friends, and attempts to direct the mind from its melancholy pressure, are the chief aids under such miserable circumstances.

The heart suddenly dilated by over joy, has produced madness; therefore good intelligence should be delivered with prudence and circumspection.

Distentions of vessels, which include various madness, are of two species.

I. *Vessels* are over dilated, by an increased force of the heart and arteries, with too slow a movement of blood in the veins: the effect of mental perturbation, acting powerfully on the heart in robust subjects, whose muscular powers are strong, and cohering particles firm, joined with plethora, and viscidity of the blood.

II. *Vessels* can be over distended, and continue so, from relaxation of their coats. The heart may be sufficiently powerful, with *stimuli* of degenerated acrid blood, to force rapidly the irritating blood into the aorta, and this vessel into the arteries. The fibres of arterial

terial coats, or the cohering particles forming muscular fibres of arteries, may be less firm, joined with irritability of the nervous powers, and, therefore, easier excited to action.

The muscular powers of the heart are often very lax and debilitated; the fibres composing this organ may be more irritable in proportion to the nervous irritability of other parts; or, the heart being over excited by a sharp, debilitated, lax texture of the blood, its contractions and dilatations become rapid, though feebler. These causes conjointly produce the quick, low pulse in hectic and other low fevers, occasion little heats or flushings, universal or partial, by a rapider, though in general a weaker arterial action. The acrid blood having a stimulating quality similar to *artificial stimuli*, may act most powerfully in parts, which have already suffered distention, and accustomed to an inordinate excitement to action. Parts that have been once convulsed, on slight occasions, are reconvulsed. Vessels once excited to a quicker action, which may be called a convulsed motion of their muscular coats or muscles, from equivalent causes are easily irritated to repeat increased action. This is illustrated by any slight colds producing in various persons their accustomed, though different effects; as to the pleuritic, a pain in the side;

to the gouty or rheumatic, the gout and rheumatism ; to others, inflammations of the eyes, pains of the head, teeth, cough, intestinal complaints, &c. &c.

The vessels of the brain, then, having already suffered distention with phlogisticated or dephlogisticated air, blood, or acrid fluids ; the membranes and vessels may be re-irritated by viscid, or too lax a blood, acrimonies, &c.

It has been already observed, that the arterial coats of the arteries in the brain, are much thinner and weaker, than in any other part of the body.

The first species may be called *tonical distension*, the second *atonical distention*. A great variety of diseases may be more accurately considered under these two distinctions.

The former comprehends all the degrees of the true *inflammatory diathesis*, in which the blood is viscid and of a firmer texture than usual, with stronger muscular action ; the latter, *ataxia*, debility, relaxation of the nervous system, &c. ; in which the coherence of the blood and its texture are in various degrees laxer than usual, and the muscular powers weaker, though more irritable.

The *tonical distension* is most common to the florid, robust, and vigorous ; the *atonical distention*

tention to the pallid, debilitated, and relaxed : one arises from the muscular powers acting strongly on the blood ; the other, from the force, quantity, and pressure of acrimonious fluids, against the sides of over irritable vessels, deprived of sufficient strength to make the proper resistance.

The examples of both may be illustrated, by considering the distention of the vessels, in the conjunctiva during the ophthalmia.

In both the continual, or intermittent inflammation of the eyes, the vessels are preternaturally distended with red blood ; yet the former requires bleedings, evacuations, and anti-phlogistics ; the latter, *bark* and *tonics* : the first is a *tonical distention*, the second an *atonical distention* ; in both cases the vessels are dilated, but evidently from opposite causes.

Another illustration may be drawn from the differences between the true inflammatory tumors of sanguine temperaments, and the tumors in the *anasarca*. In the first, the cellular cavities of the *tela cellulosa* are filled with red inflammatory blood, forced into the cells by the mouths of arteries accompanied with redness, pain, heat ; in the second, the cellular cavities are filled with *cold serum*, with almost a transparent pallidity of the parts, not accompa-

nied either by heat, redness, or pain. Nothing can be more contrary than these two causes giving rise to tumors; yet nothing would be more dangerous than to bleed plentifully in the dropsy, and prescribe antiphlogistics; or to invigorate the over-acting system by tonics, bark, steel, &c. in the inflammatory *diathesis*.

What cures the former, would do mischief in the latter. From visible and evident causes, effects, and the remedies which remove them, may inferences be drawn highly conducive to the cure of the diseased membranes, vascular structure of the brain, and all other membranous, or vascular parts.

It is evident, that *tonical* or *atonical* inflammation of the eyes produce similar appearances and acute pains; yet practitioners, from a want of this knowledge, have frequently failed in treating the ophthalmia. Let these doctrines be applied to the florid and robust, or the pallid and weakened habits, and medical success will be more certain*.

In raving or other species of *madness*, attended with *tonical distention*, the cure should consist, in repeated venæsection of the frontal, occipital, nasal, temporal, angular veins, or indeed the external jugulars, or in the arm, if

* See treatise on Diseases of the Eyes, &c.

punctures about the face should be objectionable.

The quantity of blood in the whole body requires reduction, to a considerable degree.

Draſtic, evacuating cathartics of jalap, nitre, and cremor tartar, or any other effectual purge repeatedly prescribed, greatly assist in lessening the quantity of fluids.

Extreme dry diet: inanition of vessels, or of the cellular cavities of the *tela cellulosa*, cannot long continue, unless great circumspection be observed in the quantity of liquids, which the *infane* use.

Two ounces of tea, coffee, or milk will be sufficient for breakfast, with three ounces of bread, and a small portion of butter.

At dinner, light food will be advantageous, with not above four ounces of liquid, whether table beer or water, and the same weight of bread.

Vegetables should be sparingly eaten, as they are apt to create flatulencies. It has been already mentioned, that flatus in the œsophagus, stomach, or intestines, may obstruct the return of blood, or irritate the brain, &c.

As substitutes for drink, tamarinds, roasted apples, or any fruits in season, are proper; if they should not create too much flatulency.

If

If the insane person has been indulged with tea in the afternoon, not above two ounces of that liquor should be drank.

For *supper*, if any be eaten, a roasted apple and a little bread, with four ounces of the accustomed drink, will be sufficient, which may be water, or cold tea.

These remedies and regimen have performed several extraordinary cures in the true inflammation, distended vessels of the eyes, and other inflammations: from analogy, great advantages may be expected in maniacal affections; wherein the vessels of the brain suffer from *tonical distention*.

The *medicines* most proper to act uniformly with such a regimen, are antiphlogistics; nitre, camphor, neutral or alkaline salts, as the sal sodæ, sal tartari, sal polychrestus, &c., antimonial diaphoretics, and laxatives.

In a few recent maniacal affections, with *tonical distention*, I have successfully prescribed the following, or something similar.

No. 93. R. Camphor. gr. x. ad 3j.

Amygd. decort. No. vj.

Sacch. alb. gr. xv. terc simul, deinde adde gradatim Aq. pur. 3ij.

Sal. nitr. 3ss. F. haustus, quartâ vel sextâ quâque horâ sumendus.

To

To keep the intestines constantly in a lax state;

No. 94. R. Elect. lenitiv. 3ij.

Pulv. crem. tart. 3fs.

— jalap. aa 3ij.

Syr. simp. q. s.

F. elect. cuius capiat Q. N. M. bis vel ter de die.

The *decoctum nitrosum* may accompany the antecedent regimen and medicines, *pro potu ordinario*, but not to much exceed the quantities prescribed.

These, or similar plans, continued many months, would most probably cure madness, when principally arising from *tonical distension*.

The evacuating plentifully the fluids of the body, must certainly also empty the vessels of the brain.

The emptiness of vessels being continued for many months, or perhaps a year or two, by the *dry antiphlogistic* regimen, may permit the coats of the vessels to recover their former size; from the canals being continually emptier, and contracting and accommodating themselves to the force and quantity of the irritating fluids.

Nitre and *camphor* acting chiefly as sedatives, whose excellent qualities I have experienced near thirty years in the *phrenitis*, and *delirium*

in

in inflammatory fevers, &c. are very proper to diminish arterial action, or by acting as anti-spasmodics, on the nervous system distracted by *tonical distention*.

Laxatives constantly taken, strike at the very root of repletion, by not suffering the lacteal system to absorb much of what enters the stomach or intestines.

Profuse sweating is, likewise, amongst the evacuants of superabundant fluids.

If a diaphoresis should be thought necessary, one or two drams of the *solutio antimonialis* may be added to the draughts, so as never to excite vomiting.

SOLUTIO ANTIMONIALIS.

No. 95. Rx. Tart. emet. gr. j. solve terendo in
Aq. pur. 3j.

In certain cases, wherein drink cannot be dispensed with, water acidulated with vinegar, with or without nitre, will be beneficial; as it is cooling, and *diminishes lacteal absorption*.

Large doses of vinegar without any other remedy have cured the mania *. Vinegar acts

* Bergius M. M. vegetabil. p. 164. De aceti vini egregiis virtutibus medicis bene differuit Jos. Benvenuti in Nov. Act. Ac. N. C. vol. ii: p. 132, seq.

De felici effectu aceti in mania larga dosi propinati, observationes pulchras edidit, Locher in Obs. Pract. p. 68.

as a diaphoretic and refrigerant in many fevers; it diminishes nutrition by contracting the lacteal absorbent vessels, and perhaps would be very efficacious with water, as a drink for the insane, whose state of stomach or intestines do not contra-indicate the use of vegetable acid.

The *cure*, then, of insanity arising from, or accompanied with *tonical distention* of vessels, depends on *depletion*, the preventing *repletion* with the use of antiphlogistic regimen, and remedies.

The *cure* of insanity with *atonical distention*, pallor of countenance, or sallowness, debility in the moving muscular powers, or a depraved state of the blood, and, of course, all other human fluids, will be comprehended from its opposition to the former species.

The natural state of the patient's constitution should be considered, before the insanity commenced; to discover, whether the appearances of pallor, sallowness, or depraved blood pre-existed: if they did, with so much the more difficulty can the constitutional degradations be changed, either by diet or medicine.

The mania or melancholy appear both in the *tonical* and *atonical distention*, and sometimes are complicated, as far as I have been able to collect from those conversant in maniacal affections.

tions. The modes of cure must be complex, if disorders originate in compound causes.

In the *atonical distention* of vessels, after proper evacuants of the cathartic kind, tonics of bark, elixir of vitriol, cold bathing, and exercise, should be prescribed.

The diet may be equally of the *dry kind*, as in the *tonical distention*, but more nutritious, in order not only to change the lax texture of the fluids, but likewise to give more firmness to the solids. The blood being diminished, and the solids firmer; the distended vessels will gradually contract, and, in time, resist the milder impulse of healthier fluids.

The seasons of the year and climate should be adverted to; for when the air is cold and humid, less drink is to be permitted, than in dry and sultry weather.

The excretions are likewise not to be neglected; for when they be copious, more drink is to be allowed, than when perspiration, urine, or feces be long retained, or evacuated in small quantities: but these circumstances are to be ascertained by the portion of the foods daily received.

It appears rational, in either species of madness, that in proportion to the force of the insanity, and length of time it has continued, a longer space of time is proportionably required

quired for its removal. Vessels once distended, in some constitutions, may require months, or years perseverance in the most rational plans, to obtain a cure, and defend the patient from a relapse*.

Acrimony, joined with distention of vessels, may be of various species, and may greatly augment, or continue the effects on the brain in madness.

The acrimony most prevailing, whether inflammatory, in which a greater quantity of coagulable lymph, or in any debility, in which a less portion of coagulable lymph, but a greater of serum, abound, should be considered.

* An officer, a most worthy man, who was in his Majesty's service with me in the French and Spanish war of 1761 to 1763, was apt to drink a cheerful glass, which always rendered him raving mad and extremely troublesome to his brother officers: the delirium lasted two or three days; but I always cured him by acetum and water, bleeding, &c. He committed a rash action in one of these fits, which, when sober, made him determine never to drink any thing but water: this sudden change of diet soon produced anasarcaous swellings, but by chalybeates and a dry diet he was cured. It is now a period of 25 years or more since he commenced his water-drinking plan, which he has constantly continued without any return of madness, but apprehends, that spirituous liquors would soon produce a relapse. This great change of diet, though salutary to this individual patient, might be injurious, or fatal to many others.

The former requires evacuants, antiphlogistics, resolvers of the coagulable lymph, such as diluted alkaline salts, whether fossile or vegetable, as the *sal sodæ*, or *sal tartari*, and similar remedies; the latter tonics.

The *scrophulous*, *venereal*, *gouty*, or *rheumatic* acrimony is to be removed by antivenereal and metallic alteratives; amongst which, *hydrargyrus* and *antimony* joined, claim the preference as most safe and effectual. They may be repeatedly given, if well prepared, in small doses, after my manner, without disturbing the most delicate constitution. Prescriptions of this nature will be found in the prior part of the treatise, as correctors of chronical acrimony, and cause-removing remedies.

The *pineal gland* has been found morbid, withered, indurated, and dry, in ideots; but as the absorbent lymphatic system is not discoverable in the brain, it is doubted, whether this affection could produce madness.

The gouty, rheumatic, scorbutic, or any other prevailing acrimony, should be treated according to circumstances. In all which cases, the blood must undergo a thorough change, or no success need be expected.

Accumulations of serum, or coagulations in the brain, being amongst the causes of insanity, their

their removal, if possible, should be effected : these congestions seldom happen, until the disorder has ravaged many years.

In conjunction with the methods, already recommended, in *tonical or atonical distention*, profuse sweating, without much drinking, will be useful.

The vapor baths; or antimonial solution, so as not to vomit, or vinegar whey, or vinegar and water, or any other certain diaphoretic, continued many days, seem most likely to dislodge and evacuate the accumulated, or offending matter.

If these should prove unsuccessful, then a long-continued mineral alterative course gives the best, though doubtful, prospects of relief.

Blisters to the head, neck, and back may be prescribed, cupping, issues, or setons.

The *coagulated serum* in the interstices of the brain appear, most likely, to be removed by a long perseverance in the more powerful metallic alteratives, nitre, and camphor*. This I mention from analogous reasoning. Glandular tumors, many accumulations and obstructions have been discussed in other parts by

* See *treatise on the new modes of administering alteratives*, their modes of operating, powers, and various preparations in chronic diseases, king's evil, scirrhus, cancers, ulcers, and all depravities of the blood.

these means, and it is rational to conclude, that the brain itself and membranes suffering from such causes, may be relieved by similar remedies, given in the new manner*.

Exostoses pressing on the brain, or in the longitudinal sinus, &c. are incurable; supposing they were discoverable, unless their exact situations were known, and the trepan could be with safety performed, which hazardous operation is not applicable, to the sinuses.

Preternatural dryness, or palsy of the vessels of the brain, which most commonly happen in the last stages of insanity, might be treated with diaphoretics, stimulants, or metallic alteratives long repeated; though little or no success can be expected. In difficult cases, however, it is more humane to try some probable remedy, rather than totally desert the patient; especially where no mischief can accrue from the attempt.

Indurations of the brain indicate a similar prognostic, and attempts to cure with the former.

The four last causes, namely, accumulations or coagulum of serum, bony concretions, pre-

*. Several new modes of preparing, and administering mineral alteratives, I have invented; which will be communicated in a small treatise on those subjects, in addition to those already published.

ternatural dryness, or induration of the brain, are not discoverable during life. Dissections after death have shewn their existence; therefore, to prevent them in life by the antecedent remedies, is, perhaps, the most that medicine, however skilfully applied, can attempt.

Florid complexions with mania, and strong muscular powers; or where the brain acts with great energy and violence, require powerful evacuants and relaxants.

The *pale, melancholic, and debilitated, tonics, cold bathing, &c.**

The *acrimonious, alteratives of the mineral class, &c.*

Opium, a noble remedy in many diseases, has been recommended in maniacal affections; to the use of which are the following objections:

1. It cannot cure madness, nay it is known often to increase the paroxysms of furor.

2. Supposing it would allay irritation by diminishing the nervous influence and arterial action, yet these effects would be diametrically oppo-

* I lately cured a young lady of a melancholic species of madness, by two grains of the *pulvis alterans* in a pill, three times a day, and large doses of nitre and camphor. The *pulvis alterans* is washed calomel, which has been 12 times sublimed, or six times sublimed, if the former be not procurable, and sulph. aurat. ant. p. æ. rubbed together for 10 or 12 hours. . . .

sire to every rational attempt to remove the causes of the disease; for if madness be principally caused by fluids over-distending vessels, and a tardier circulation through the veins; or from accumulations or stagnations in the brain. *Opium*, by its sedative properties, would be more likely to *fix* the disorder in those parts, than *remove* it.

3. In perturbations of mind, amongst the nervous and easily irritable, *opium* produces wanderings of the fancy, delirium, and distracted pains of the head, similar to strong intoxicating liquors. If its sedative powers act on the nervous system, this checks the circulating arterial pulsations, by lessening the irritability of the heart, and muscular fibres of arteries, rendering their action slower; hence a greater quantity of blood may be collected and retained in the brain; which counteracting, as in madness, the nervous animal principle, is productive of phrenzy, delirium, &c. in proportion as the party who takes *opium* is nervous, and irritable in mind and body.

4. It occasions costiveness, which in madness should always be prevented; there are likewise many other objections, not necessary to be recited on the present occasion!

5. *Opium*, therefore, as it cannot rationally be prescribed, but as a mere palliative *pro tem-*

pore;

pore; whose effects are never permanent, but by a repetition and increase of its dose; incurable cases excepted, it is excluded in the treatment of madness, as contrary to the cure recommended.

This is not intended merely to palliate at the expence of future mischief; but to eradicate, if possible, the very causes of that melancholy disorder.

If allayers of irritation be thought necessary, camphor and valerian are most proper for the *tonical distention*; and the fetid gums, as *assafœtida*, *myrrh*, *sagapenum*, *olibanum*, &c. in *atonical distention*; which must be left to the skill and judgment of the prescriber.

Thus have been explained, and communicated many new doctrines concerning madness, its causes, and cure. The *data* or *facts* on which these principles have been constructed, are anatomical inquiries, the most certain of all, and inductive reasonings from the morbid appearances of parts, constituting many new lights on insanity. Several methods of cure, hitherto unattempted, are drawn from the foregoing reasonings, and above thirty years constant and extensive experience and reflection, on the powers of medicine in every branch of the art.

If the curative modes recommended should, as they must, in several instances fail; yet the

causes of this failure, from contemplating what is here advanced, will be better understood, than heretofore. The next useful knowledge to curing diseases, is, to comprehend, and give the reasons, why cures should not be expected. This is the distinguishing mark of real medical learning, contrasted to rash boasting, and delusive empiricism.

One of the most ancient and most curious anecdotes concerning madness is amongst the works of Hippocrates, who was called by the Abderites to come to Abdera to cure Democritus of insanity. The embassy and epistles on this famous occasion demonstrate the origin of the doctrine of madness, as arising from *black bile* or *melancholy*, which opinion prevailed for above 2000 years.

The most considerable circumstance concerning Democritus is, the dissection of animals, to discover the cause of madness. His countrymen, observing him to pursue these kind of studies, which were very extraordinary in those ages; retiring and living in sepulchres; engaged in the deepest contemplation; they concluded, he was in a state of melancholy madness. This is no uncommon compliment to all men of extraordinary genius, or who possess an elevation of sentiment above the generality of cotemporaries.—Democritus continually laughing, on all occasions, whether serious or mirthful,

ful, confirmed their suspicions. For this reason, they sent Amelesagoras, one of their chief citizens, to *Hippocrates*, that most eminent physician at Cos, with the subsequent epistle.

“ *The Senate and People of Abdera to Hippocrates.*
Health.

“ Our city, Hippocrates, is in very great danger, together with that person, who, we hoped, would ever have been its greatest ornament. But now, (O ye gods!) it is much feared, that we shall only be capable of envying others, since he, who through extraordinary study and learning, elevated the city, is fallen sick: so that it is much apprehended, if Democritus become mad, our city Abdera will be desolate: for, wholly forgetting himself, watching day and night, laughing at all things, small and great, and esteeming them as nothing; he occupies, after this manner, his whole life. One marries a wife; another trades; another pleads; another executes the office of magistrate; goes on an embassy; is chosen officer by the people; is rejected; falls sick; is wounded; dies: he laughs at all these: on beholding some to appear discontented; others pleased. He likewise inquires, what is done in the infernal regions, writes his contemplations, and affirms the air to be full of images; that

he understands the language of birds, and often, rising in the night, sings to himself; and says, that he sometimes travels into the infinity of things; and asserts that there be innumerable Democritus's like him. Thus, together by the exercise of his mind, he destroys his body. These are the things we fear, Hippocrates! these are those which deeply afflict us. Come quickly, therefore, and preserve us by your advice. Despise us not; for we are not inconsiderable; and if you restore him, you shall not fail, either of money, or fame. Though you may prefer learning before wealth, yet accept of the latter, which shall be presented to you in great abundance.

To restore Democritus to health, if our city were all *gold*, we would give it. We think our laws, Hippocrates, are sick. Come then, thou best of men, and cure a most excellent person. Thou wilt not come as a physician, but as the founder of all Ionia, to encompass us with a sacred wall. Thou wilt not cure a man, but a city, a languishing senate; and prevent its dissolution: thus becoming our law-giver, judge, magistrate, and preserver. To this purpose we expect thee, Hippocrates; all these, if you come, you will be to us. It is not a single obscure city, but all Greece, which implores thee to preserve this body of wisdom. Imagine that learning herself comes on this embassy

bassy to thee, begging that thou wilt free her from this danger. Wisdom is certainly allied to every one ; but especially to us who live so near her. Know for certain, that future ages will acknowledge themselves obliged to thee, if thou desert not Democritus, for he is capable of communicating the truth to all mankind. Thou art allied to *Æsculapius* by thy family, and by thy profession. He is descended from the brother of Hercules, from whom came Abderus, whose name, as you have heard, our city bears ; wherefore, even to him, will the cure of Democritus be acceptable. Since therefore, Hippocrates, you see a whole people, and a most excellent person, falling into madness, hasten, we beseech you, to us. It is strange, that the exuberance of good should become a disease. Democritus, by how much he excelled others in acuteness of wisdom, is now in so much the more danger of being mad, whilst the common, unlearned people of Abdera enjoy their senses as formerly ; and even they, who before were esteemed very foolish, are now most capable to discern the indisposition of the wisest person. Come, therefore, and bring along with you *Æsculapius*, and *Epione*, the daughter of Hercules, and her children, who went in the expedition against Troy : bring with you the receipts and remedies against sickness. The earth plentifully affords,

affords fruits, roots, herbs, and flowers to cure madness, and never more happily than now, for the recovery of Democritus. Farewell.

Hippocrates returned this answer :

Hippocrates to the Senate of Abdera. Health.

Your countryman Amelesagoras arrived at Cos that day on which was celebrated the Assumption of the rod, which, as you know, is an annual assembly and solemn feast amongst us, held at a cypress tree, which is carried by those particularly consecrated to the god. But finding by the words and countenance of Amelesagoras, that your business required much haste, I read your letter, and much wondered to find your city no less troubled for one man, than if the whole city were but one man. Happy indeed are the people, who know that wise men are their defence; not walls and bulwarks, but the sound judgment of wise persons. I conceive the arts are the dispensations of the gods, men the works of nature; and be not angry, ye men of Abdera, if I conceive, that it is not you, but nature itself, which calls me to preserve her work, which is in such imminent danger of falling.

Wherefore, obeying that which is the invitation of nature and of the gods, rather than yours, I shall make haste to cure the sickness of
Demo-

Democritus, if it be a sickness; and not, as I hope, an error in you. It would be yet a greater testimony of your good will, if you were troubled only on suspicion. Neither *nature* nor the *gods* have promised me any thing for my coming; and therefore, men of Abdera, do not you force any thing upon me; but suffer the works of a *liberal art* to be *free*. They who take *rewards*, compel sciences to *servitude*, and make them slaves, depriving them of their freedom. Besides, it is possible, that such may dissemble in a great disease, and deny in a little; and when they have promised, *not come*, and *come*, when they are *not* sent for. Miserable indeed is human life; for that the insatiate desire of *wealth* continually invades it, as a winter wind! I wish that all physicians would join together to cure it of this disease, which is worse than madness; notwithstanding it is thought happy, but is indeed a pestilential sickness. All distempers of the mind are, as I conceive, high madness; for they excite, in the reason, strange opinions and fancies; which reason must be purified, and cured by virtue. As for me, if I at all made it my design to be rich, I would not, ye men of Abdera, come to you for ten talents; but would rather have gone to the great king of Persia, where there are vast cities full of all kind of wealth: there I would have practised physic;

but

but I refused to cure a nation which are enemies to Greece ; and to the best of my power have myself opposed the barbarians. I thought it a dishonor to accept the wealth of a king, foe to our country, by which means I might become a destroyer of Greece. To get wealth, by all means, is not to be rich ; the principles of virtue are sacred and just. Do you not think it an equal offence to cure our enemies, as to take money for the cure of our friends ? But this is not my custom. I raise no wealth out of sickness ; nor did I wish, when I heard Democritus was mad, that it might prove so in reality : if he should be well, he is a friend ; if he happen to be cured of his sickness, more a friend. I understand that Democritus is a person of firm and settled parts, the ornament of your city*.

It is said that Hippocrates, in order to perform this voyage, sent to his friend Dionysius to take care of his family in his absence ; to Damagetus, that he would provide a ship ;

* Artaxerxes offered an hundred talents to Hippocrates to come into Asia, and cure a pestilence, which desolated the provinces and army. The sum, in silver talents, is supposed to be 35,000l. in gold about 400,000l. This shews the great riches of the Asiatics, and the patriotic virtue of that noble Greek to resist the temptation ; though the island was threatened with a dangerous war. Men have been less scrupulous in our refined times : whenever they have an opportunity of acquiring immense wealth, *per fas vel nefas*.

to Cratevas, that he would furnish him with medicaments.

How Hippocrates was received the next day at Abdera, he gives the following description to his friend Damagetus.

To Damagetus. Health.

It was as I conjectured, Damagetus; Democritus is not mad; but is extraordinary wise; and hath taught us wisdom; and with us, all men. I have sent back, with many thanks, the Æsculapian ship, on the prow whereof, to the picture of the sun, may be added health; for we made a quick voyage, and arrived the same day, that I had sent word, I could be at Abdera. I found all the people flocking together at the gate, in expectation, as it appeared, of our coming; not only men, but women, the old and the young, and by Jove, the very children; so much were they affected at the madness of Democritus, who at that time was seriously employed in *philosophy*. When they perceived me, they seemed, a little, to be comforted, and to have some hope. Philopæmen offered to conduct me to my lodging, as all of them likewise desired; but I told them, Men of Abdera, I will do nothing before I have seen Democritus; which, they no sooner heard, than they applauded, rejoiced, and brought

brought me immediately along the forum; some following, others running before, crying out, Great king, Jupiter, help; heal! I advised them to be comforted; for that it being the seafon of the Etesian winds, I was confident, there was not any sickness that would continue long: and, in saying this, on I proceeded. The house was not far, nor indeed the city; we went to it, being near the city walls, whither they conducted me quietly. Behind the tower there was a high hill, very full of tall poplars; from whence we beheld the habitation of Democritus. Democritus himself sat under a shady, but low plane tree; in a thick grove all alone, squalid, upon a seat of stone, wan and lean, with a long beard. At his right hand, a little brook ran down the hill; upon which was a temple consecrated, as it should seem, to the muses, encompassed with vines, which grew there spontaneously. He sat very composed, having a book on his knees, and round about him lay other books; with the bodies of many animals dissected. Sometimes he wrote hastily; sometimes paused, seeming to consider things within himself. Soon after he arose and walked, and intently examined the dissected creatures; then laid them down again, and returned to his seat. The Abderites, standing about me, and hardly refraining from tears, said, You see, Hippocrates, the life

life of Democritus, how mad he is ; he knows neither what he would have, nor what he does. One of them, who would have given me a farther description of his madness, on a sudden fell a sobbing, and howled like a woman at the death of her son, and then began to lament like a traveller robbed of his goods ; which Democritus hearing, sometimes smiled, sometimes laughed, not writing any longer, but shaking his head. Men of Abdera (said I) remain here, while I approach nearer ; that, by hearing him speak, and *observing his constitution*, I may judge clearly of the distemper : in so saying, I went gently down ; the place was very steep, so that I could hardly keep myself from falling. When I came near, it happened, that he was writing something, in a rapture, earnestly ; whereupon I halted, waiting till he should give over. It was not long before this occurred ; and, perceiving me advance towards him, said, Hail, stranger ! I answered, Hail also, Democritus, the wisest of men ! He, as I imagine, a little concerned, that he had not saluted me by name, replied, What may I call you ? for my ignorance of your name is the reason that I styled you stranger. My name, said I, is Hippocrates, the physician. You are, said he, the glory of the Æsculapians, the fame of whose worth, and knowledge in physic, is arrived as far as me.

What

What business has brought you hither? but first sit down. This seat, you see, is pleasant, green, and soft; better than high thrones, which are subject to the envy of fortune.— When I was seated; is it a public or private business, saith he, which brought you here? tell me freely, and we shall, to our utmost power, assist you. I answered, It is on your account, that I came hither, to be acquainted with you, a wise person, the occasion being afforded me by an embassy from your country. He replied, Then let my house entertain you. Having thus made trial of him several ways, and not perceiving any thing like insanity; You know, said I, Philopœmen, one of this town? Exceeding well, answered he, you mean the son of Damon: he lives near the Hermæan fountain. The same, replied I; he has been an old acquaintance, and kindly received me for his guest. But you, Democritus, I intreat to afford me a better entertainment; and, first tell me, what it is, that you are writing. He, after a little pause, answered, concerning *madness*. Good Jupiter, said I, you write seasonably against the city! What city, Hippocrates? answered he. I replied, that I only spoke at random. But what do you write of madness? What else said he, but explaining what it is, how it comes to be generated in man, and how it may be cured. These animals, which

you

you behold, I have dissected for that purpose ; not as hating the works of the gods, but to make inquiry into the nature and seat of *choler*. You know, where *bile* abounds too much, it most commonly causes madness in men : it is in every person ; but in some less, in others more : its excess causeth diseases, being a matter partly good, partly bad. By Jove, said I, Democritus, you speak truly and wisely, and I judge you happy, who can enjoy a serenity I cannot partake of. But why cannot you ? saith he. I answered, Because either travels, children, or estate, sicknesses, deaths, servants, marriages, or the like, interrupt my repose. Hereupon he fell into his usual passion, and laughed for some time exceedingly, suspending discourse. Why, said I, Democritus, do you laugh ? Whether is it, that I have spoken well or ill ? Upon this, he laughed more than before, which the Abderites, who stood a distance off, perceiving, some shook their heads, others beat their foreheads, others tore their hair ; for, as they afterwards said, they observed him to laugh at that time more than ever he had before. Democritus, thou best of wise men, replied I, I desire to know the reason of this passion ? What have I said that seems ridiculous ? for if it prove such, I may reform it ; but if otherwise, you may desist from this unreasonable laughter. By Hercules,

Y said.

said he, if you can convince me, Hippocrates, you will effect a cure greater than any you have yet performed. Wherefore, said I, should you not be convinced? Know you not, that you act absurdly in laughing at the death of a man, sickness, madness, murder, or any thing worse than these; and on the other side, on marriages, assemblies, the birth of infants, solemn rites, magistracies, honors, and, generally, at every thing that is nominated good? Those things which deserve to be pitied excite laughter; and, those, for which we should rejoice, you laugh also; therefore you appear not to place any difference between good and evil. Then he, You speak well, Hippocrates; but you are not yet acquainted with the reason of my laughter, which, when you know, I am confident you will prefer to the cause for which you travelled here, and convey it as a medicine to your own country, thereby improving both yourself and others. In requital, perhaps you will think yourself obliged to teach me physic; when you shall understand, what trouble all men take for things that deserve not labor; things of no value, and consume their lives unprofitably in actions that deserve nothing but ridicule. What, said I, is all the world sick, and knows it not? If so, they can send no where to solicit help: for what is beyond the world? He replied, There are infinite worlds,

O Hip-

O Hippocrates; have not so mean an idea of the riches of nature! Teach me this, said I, Democritus, some other time; for I am afraid, if you begin to talk of this infinity, that you will fall again into a fit of laughter. But now inform me the reason, that you laugh at the accidents of life. Then looking stedfastly upon me, You think, faith he, there are two circumstances occasioning my laughter; good and ill; whereas indeed I laugh but on one principle. Man, full of folly, destitute of upright actions, playing the infant in all his designs, undergoing great toils for little benefit, travelling to the end of the earth, and sounding bottomless depths to get silver and gold; never ceasing to accumulate, and with an increase of store, increasing endless troubles; lest, if he should want, he might be thought miserable. He digs into the bowels of the earth by the hands of slaves; whereof some are buried by the earth falling on them; others dwell under ground, as though it were their native soil, searching for gold and silver, sifting one sand from another; cutting and tearing their mother earth, which they both admire and trample. How ridiculous is this, to love that part of the *earth* which lies *hid*, and condemn that which *lies open* to them! Some buy dogs, others horses; some delight in having large

poſſeſſions, which they may call their own, and would command multitudes, when they are not able to command themselves. They marry wives, and in a ſhort time are divorced; they love, and then hate; they take delight in children, and when they are grown up, diſinheriſt them; they war, and diſpife peace: they conſpire againſt kings, muſter men, dig the earth to find ſilver, with the ſilver they have found, they buy land; what the land which they have bought yields, of corn or fruits, they ſell, and receive ſilver again. To what changes and miſfortunes are they ſubjeſt! When they poſſeſſ not riſhes, they deſire them, when they are acquired, they are hid, or ſcattered. I laugh at their ill-deſigned projects, I laugh at their miſfortunes. They violate the laſs of truth, through contention and enmity with one another; brethren, parents, and countrymen fight and kill eaeh other, for thoſe poſſeſſions, of which, after death, none can be poſſeſſors. They purſue an unjust course of life; they diſpife the poverty of their friends and country; mean and inanimate things they account for riſhes: they will part with a whole eſtate to purchase ſtatues, because the ſtatue ſeems to ſpeak; but thoſe who ſpeak, indeed, they hate. They affect things difficult to be acquired; they who dwell in the continent, covet the produc-
tions of the ſea; they who inhabit iſlands, thoſe
of

of the continent; perverting all things to their own depraved desires. In war they praise valor, while they are daily subdued by luxury, avarice, and all passions; and in the course of his life every man is a Thersites. Why did you, Hippocrates, reprove my laughter? No man laughs at his own insanity, but at the madness of another. They who think themselves to be sober, laugh at those who appear to them to be drunk: some laugh at lovers, whilst they themselves are sick of a worse distemper; some at those who travel by sea, others at those who follow husbandry; for men do not agree with one another, neither in arts, nor actions. All this, said I, Democritus, is true; neither is there any argument that may better prove the unhappy state of man; but these actions are caused through necessity, by reason of the government of families, the building of ships, and other civil offices, wherein a man must necessarily be employed; for nature did not produce him, to be idle. Again, height of ambition causes several men to deviate from the paths of justice; they aim at all things, as if there were nothing immoral; not being able to foresee the darkness that attends their futile attempts. For, Democritus, what man is there, that, when he marries, thinks of divorce, or death? Who is there, who, while he educates children, thinks of losing them? The like on

husbandry, navigation, dominion, and all other offices of life. No man foresees, that his expectations may prove abortive; but every one flatters himself with hopes of good success, and does not anticipate the worst. Why therefore is this ridiculous? Democritus replied, You are yet far from understanding me, Hippocrates, neither perceive, through want of knowledge, the bounds of serenity and perturbation; for if they ordered these things prudently, they might easily discharge their duty, and evade my laughter; whereas now, they are blind to the offices of life, and with minds void of reason, are carried away by inordinate appetites. It were enough to make them wise, if they would but consider the mutability of things, how they wheel about continually, and are suddenly changed; whereas they, looking upon these as firm and settled, fall into many inconveniences and troubles, and correcting things injurious, they tumble headlong into many miseries. But if a man would rightly consider, and weigh in his mind all things that he attempts, understanding himself, and his own abilities, he would not let his desires run to infinite, but follow nature; out of whose store all are nourished and supplied. As a corpulent body is in the greatest danger of sickness, so a high estate is in greatest danger of falling. Great minds are known in extremities. Some there are, who,
taking

taking no warning by that which happeneth to others, perish by their own ill actions ; minding things manifest, no more than though they were not manifest ; whereas they have many precedents to guide their life, of things effected and not effected, by which we ought to foresee the future. This is the occasion of my laughing. Foolish men punished by their own wickedness, covetousness, lust, enmity, treachery, conspiracy, envy : it is a hard thing to give a name to many of these evils, they being innumerable, and practised so privately. Their behaviour as to virtue is still worse ; they affect lies, they follow pleasure, disobeying the laws : my laughter condemns their inconsiderateness, who neither see nor hear ; whereas the sense of man only, of all others, is able to foresee future events. They hate all things, and then again apply themselves to them ; they condemn navigation, and yet fail on the sea ; despise husbandry, then fall a plowing ; put away their wives, then marry others ; they bury their children, beget more, and bring them up ; they wish to live long, and when old age comes, are grieved ; never remaining constant in any state whatever. Kings and princes commend a private life ; private persons a public. He that rules a state, praises the tradesman's life, as free from danger ; the tradesman applauds the courtier, as full of ho-

nor and power; for they pursue not the direct, true, and smooth way of virtue, in which none of them will endure to walk, but crooked and rough paths. Some tumble down, others run themselves out of breath, to overtake superiors in fortune or reputation. Some are guided by incontinence to the beds of their neighbours; others are sick of a consumption, through insatiate avarice. Some, by ambition are carried up into the air, and through their own wickedness thrown down headlong. They pull down, and then they build; they do good, and oblige others, then repenting, break the laws of friendship, commit wrong, fall at enmity, and fight with their nearest relations; of all which, avarice is the cause. Wherein do they differ from children that play, whose minds being void of judgment are pleased with every thing they meet with? In their desires they differ not much from brute beasts; only the beasts are contented with that which is enough. What lion is there that hides gold under ground? What bull fights for more than he needs? What leopard is insatiably greedy? The wolf, when he has devoured as much as serves for his necessary nourishment, gives over; but whole days and nights put together are not sufficient for men to feast and riot. All brute beasts have their yearly set times for coition, and then leave; but man is continually transported

ported with lust. How can I, Hippocrates, but laugh at him that laments the loss of his goods? and especially, if, without regard to dangers, he travels over precipices and on the sea, how can I forbear to laugh exceedingly? Shall I not laugh at him whose ship founders, by lading it with rich merchandize, and then blames the sea for sinking it? If I seem injudiciously to laugh at these, there is, at least, something that deserves to be lamented. These stand not in need of the physic nor medicines of your predecessor, *Æsculapius*, who, preserving men, was struck dead by thunder*. Do you not see, that I am also partly guilty of insanity, who, to inquire into the causes of madness, dissect these several living animals, whereas, indeed, I ought to search for it in man himself? Do you not see that the whole world is full of inhumanity, stuffed, as it were, with infinite hatred against man himself? Man is from his very birth a disease: when first born he is useless, and sues for relief from others: when he grows up, foolish, wanting instruction: at full growth wicked; in his decaying age miserable, toiling, throughout all his time, imprudently. Such he is from the womb. Some being of furious,

* *Æsculapius*, the fabulous histories inform us, was destroyed by thunder.

angry dispositions, are continually engaged in quarrels; others in adulteries and rapes; some in drunkenness; others in coveting the goods of their neighbours; others in consuming their own: so that if the walls of all houses were transparent, we should behold some eating; others vomiting; others wrongfully beaten; others mixing poisons; others conspiring; others casting accounts; others rejoicing; others weeping; others plotting against their friends; others raving mad with ambition. Some actions there are more remote within the soul. Some young; some old; suing; denying; poor; rich; starved; luxurious; sordid; imprisoned; murdered; buried; despising what they possess, and aiming at what they have not; impudent; niggardly; insatiate; vain glorious. Some setting their minds on horses; others on men; others on dogs; others on stone and wood. Some affect embassy; others the command of armies; others sacred rites. Some wear crowns; others armor. Some fight at sea; others at land; others till the ground. Some plead in the forum; others act on the theatre: every one is differently employed. Some embrace pleasure and intemperance; others rest and idleness. How then, can I but laugh at their conduct? It is to be feared that your art of physic will not please them;

them; for intemperance produces frowardness, they esteem wisdom, madness; and I doubt much, that many things in your art are openly reproached, either through envy or ingratitude: for the sick, when they are cured, ascribe the cause either to the gods, or chance. Many are of such a disposition as to hate those who have obliged them, and can hardly refrain from being angry if they have occasion for assistance. Numbers also, being themselves *ignorant*, prefer *ignorance* before *science*. *Fools* give their suffrages; neither will the *sick* commend; nor they who are of the *same art* give their approbation through *envy*. It cannot be, but you must have suffered injury of this kind; for I know very well, that you have often been treated unworthily, and reproached by *malice* and *envy*. There is no knowledge, nor attestation of truth. In saying this, he smiled, and seemed to put on a divine look, casting off that which he had before. Then, I said, excellent Democritus, I shall carry back with me to Cos the great gifts of your hospitality, full of your wise instructions. I shall return to proclaim your praises; for that you have made inquiry into human nature, and understood it. I shall go away cured in mind, it being requisite, that I take care for the cure of the bodies of others. To-morrow, and afterwards,

wards, we shall meet here again : which said, I arose, and he readily accompanied me. A man came to him, from whence I know not, to whom he delivered his books. When I came to the Abderites, who all this while staid for me, Men of Abdera, said I, I return you many thanks for the message you sent ; for I have seen Democritus, the wisest of men, who only is able to reduce men to sound understanding. This, Damagetus, is all I have, with pleasure, to relate to you concerning Democritus. Farewell !

These epistles give an admirable description of that most excellent of men, Hippocrates, whose noble soul exerted its utmost efforts to relieve the afflicted, and prove serviceable to society : — an example well worthy of imitation — an example which, if followed, must raise medical reputation above all the detraction and calumnies of malicious enemies. Great, however, as Hippocrates was, his superior excellence excited envy among physicians of inferior abilities : these frequently compose the majority in most liberal professions. Great minds only can pursue noble objects, and attempt actions above the vulgar comprehension, but little minds industriously employ their whole genius in servilely adapting themselves to the common prejudices of the multitude.

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The superior excellence of the first are only known to the discerning few : the others, from similarity of souls, and leisure for stratagem, impose on the major part of mankind.

These epistles, likewise, contain a description of the luxury of the inhabitants of Abdera, and mankind in general in those ages. The Greeks, about the same period, were in a most voluptuous, lethargic, and corrupt state, which soon terminated in the total subversion of their liberties : for Philip, the Macedonian prince, in proportion as they were indolent and credulous, became vigilant and enterprising, availing himself of the depravity and corruption of the times. He bribed the principal inhabitants and senators of the different states, and, by slow, imperceptible degrees, planned their overthrow. This was afterwards accomplished by his son and successor, Alexander. The most excellent and powerful orator, Demosthenes, could scarcely rouse a spirit of opposition in the Athenians ; nor could they be excited to any noble or patriotic action to retard the growing power of Philip. A fatal supineness, and slothful security had seized their souls, and benumbed every enterprising faculty ; thus they fell a sacrifice to the ambitious conqueror, and illustrious protector of Aristotle and science.

On SUICIDE.

Suicide is a voluntary and self deprivation of life, or the commission of self-murder *.

In a religious, moral, or political view, any human being destroying himself is criminal.

i. In a *religious view*, it is contrary to the divine precepts of Christianity, and therefore criminal.

ii. In a *political view*, it robs mankind of those services, whether corporeal or mental, that society at large has a right to expect and demand of each individual forming a part of the whole. Suicide is a crime, then, where the duties of every individual are politically considered.

iii. In a *moral view*, it is an heinous crime, as far as it relates to the duties a man owes to his relations or friends through life; it is a dissolution of all those ties by which men are bound either by interest or affections. No human being can exist without the assistance of some of his own species; nor does any person live whose corporeal or mental services, either

* Suicide, in Greek, is called *αυτοχθησία*, which is very expressive of the action, for it comprehends self-killing by one's own hands.

for

for labor or advice, may not become useful. Men receive, and they are bound, by family affections or gratitude, to give protection, and distribute favors or assistance. He who deprives society of his services, either in a political or moral view, therefore, must violate those obligations he owes his country, family, or friends, and becomes immoral and criminal by the act of suicide.

According to the principles of the Christian religion, political or private policy, and the legal institutions of most European nations, suicide is considered criminal.

Elegant writers have appeared in defence of suicide, and have produced many specious reasons in its favor, without solid argument.— Rousseau says, “ To seek good, and avoid evil “ in that which does not injure another, is a “ right of nature. When life is an evil to us, “ and a good to no other person, we may then “ get rid of it. If there be in the world a “ maxim evident and certain, I think it is this; “ and if it is overturned, there is no human “ action which cannot be made out to be a “ crime ! ”

i. If a man robs society of his present, or the prospects of his future services, he injures that society : it is immoral to commit injuries.

ii. Though life may be an evil to a disappointed,

pointed, miserable man, yet no man can judge how serviceable his present or continued life may be to other persons; therefore he has *no right to get rid of it.*

" No human being can exist, who may not, in some measure, be useful; therefore M. Rousseau's supposition, that any one can live without being beneficial, or probably so, to some other person, is visionary, and cannot possibly happen.

III. Man cannot live without the necessaries of life, food, raiment, and lodging. In a commercial view, other persons must be benefited by the consumption of every individual, consequently no person can live without being serviceable to some person in society: he must, in some measure, supply his own and the wants of others. These reciprocal services or benefits to society are lost by suicide.

IV. There is scarce any person without relations, as father, mother, sisters, brothers, cousins, or friends, to whom mutual benefits are given and received through life; of all which death is the total deprivation. Is life *no good to others* in this view?

Do not surviving relations or friends suffer great misery of mind from losing, by death, whomsoever they esteem? How much more is the mind distressed if suicide robs us of affectionate

tionate friends? Is it not ungrateful, nay barbarous, to wound the feelings of our warmest friends by an action which is not only considered horrid, but criminal, by divine and civil laws.

The sincerity of the vindicators of suicide is best determined by their own practice; for there is no proof of any one of these celebrated philosophers committing the horrid action: they have endeavored to praise a crime which they never had resolution to execute.

Were suicide much to prevail, it might occasion depopulation; therefore heavy fines and punishments, either to prevent or deter mankind from suicide, have been generally adopted in all civilised countries. Whether confiscation of property or estate, by which heirs descended are deprived of the fortune of their ancestors, is not too severe, should be considered by the judicious legislator. In one view, it appears highly unjust that an innocent descendant should be punished for the crime of an insane ancestor: in another view, it may seem necessary to deter mankind from such actions, and induce families to prevent their commission by an active vigilance.

The *remote causes* of suicide^{*} are similar to those of insanity — perturbations of mind, or corporeal acrimony.

The more *immediate causes* are, paying too great a respect for the opinion of the world, or not being sufficiently courageous or collected in mind to bear misfortunes *æquo animo*.

An impatient, ambitious, or boisterous temper, that will not submit to common reason, or comply with circumstances of time and situation in life; warm, unreasonable expectations damped by cruel disappointment; imaginary disrespect received; timidity, and despair, have all terminated in suicide. In none of these instances can the party be considered as composed in mind. In every violent passion there is a certain degree of madness.

The mind dwelling on one subject, in which is perceived calamity, preternaturally excites the passions. When the misery of the mind appears greater than the present or future advantages of life, a sufficient resolution is summoned up to destroy that life which is become insupportable.

It has been considered courageous for a miserable man to determine not to live; but if the subject be examined by just reasoning, self murder may appear cowardice. In proportion to human misfortunes, human exertions and courage are required. Whoever deserts his friend in danger, is stigmatised with the
probrium

probrium of cowardice; but how much more pusillanimous to desert himself or family?

The example of Cato is applauded by some writers as a proof of great magnanimity. The action was the reverse: it was the effect of pride and timidity. If ever Rome required his experience and patriotic counsels, it was at that very period. To desert the duty Rome had a right to demand, by a voluntary death, was the meanest conduct in his character. It stamped an indelible stain on his reputation, which only a supposition that his intellects were impaired could rationally excuse. It was not the virtuous Cato, who had stemmed the torrent of intentional tyranny, who had spiritedly crushed the Catiline conspiracy, who had given the most noble examples of virtuous resolution and rectitude in moral conduct; but the enfeebled Cato, sinking under an accumulation of evils, whose soul was depressed with suspense and distracting passions, waiting an opportunity for revenge, or preparing to finish his life, on disappointment. If such examples were admitted magnanimous, in every serious quarrel, or war, where none can command success, it might be laudable to commit suicide, the consequences of which are obvious.

On such occasions countries would lose their bravest generals; private families their noblest and most experienced supporters.

" If I cannot acquire what I wish," says Cato, " I will kill myself, I will not live to grace Cæsar's triumph, though I know Cæsar to be the most generous and clement of conquerors. I cannot submit to receive Cæsar's favors ; my pride is wounded ; my fears destroy all tranquillity ; my body is sinking under adversity. I will not dedicate my services to my distressed country, under the auspices of successful Cæsar : I will plunge a sword into my bosom, and commit an injustice to myself, which, through a long life, I never committed to others. From the uniformity of my former patriotic character, writers, without deep reasoning, will paint this concluding action in glowing colors : they will give additional lustre to an immortal reputation." Such, most likely, were the secret springs of action in Cato's mind ; such were the contending passions which excited the delirium : it was not the placid, judicious Cato of former years ; but the depressed Cato, *impost mentis*, committing a rash action contrary to all his former great reasoning and virtuous persevering conduct. It was, in fact, Cato's act of insanity : it was not dying to serve the country, but to effectually rob Cæsar and the country of his eminent services : it therefore appears more the effect of private pique and despondency than a demonstration of public virtue.

virtue or courage. Had all others concerned in that civil war followed this extraordinary example, the country would have been robbed of many of its brightest and surviving ornaments. Cato could not say with Horace,

“ Dulce & decorum est pro patria mori;”

for it was not for the country, but the gratification of a selfish caprice, a personal resentment and hatred to Cæsar and his power. Had Cæsar attacked the city while Cato enjoyed a vigor of mind, body, and popularity; when the citizens were better disciplined, and less corrupt, he would have despised such inglorious conduct: he would rather have hoped for some future opportunity to dispel the dark clouds overwhelming the distracted country.

Physicians have frequent opportunities of observing the diminution of human courage and wisdom from long-continued misfortunes, or bodily infirmities. The most lively, spirited, and enterprising, have become depressed from reiterated disappointment: cowardice and despair have succeeded to the most unquestionable bravery and ambition. The man is then changed; his blood is changed; and with these his former sentiments. The timidity is no longer Cato's; but the miserable, debilitated body of Cato, without that vigorous soul that so eminently

eminently distinguished, on other important occasions, this excellent and divine patriot.

The example of *Lucretia* merits admiration and compassion; of *Cleopatra*, as a female; pity: but *Marcus Curtius*, who voluntarily killed himself to liberate his country from famine and pestilence, justly merits the praises of all succeeding ages; as a real patriot, he deserves immortality.

It is certainly clear, that when a man meditates how he shall destroy life, or dwells unreasonably on any misfortune, he is no longer *compos mentis*; the commission, therefore, of suicide must necessarily be always considered an act of *insanity*.

This is contradicted by some, from observing, that previous to suicide, many arrange their temporal affairs, write sensible letters to their friends, talk, and appear as rational persons, except on the subject, whether concealed or known, which occupies and attracts the attention, absorbing all the other mental powers.

On the common occurrences of life, if the intender of suicide talks and acts rationally, yet if in any one point he is irrational, and urged by that single instance of irrationality to be the perpetrator and executioner of suicide, it must be admitted, that though he was sensible and composed in most instances, yet in one thing

thing his mind was urgently discomposed. This discomposure, when it can induce a man to hurt himself, or destroy life, cannot be considered the act of a rational being, but of evident madness.

All mankind pursue, to the best of their judgment, what is thought real or imaginary good, and naturally, from experience, example, or reflection, avoid whatever is considered evil.

Pain is an evil; death the deprivation of every hope or comfort in this life. No man in his senses will burn, drown, or stab himself; for these all produce what are called evils: neither can any of these actions be executed without the probability of pain in the convulsive action, or struggles of death. As no rational being will voluntarily give himself pain, or deprive himself of life, which certainly, while human beings preserve their senses, must be acknowledged evils; it follows, that every one who commits suicide is indubitably *non compos mentis*, not able to reason justly; but is under the influence of false images of the mind, and therefore suicide should ever be considered an act of insanity.

Whether the causes which lead to suicide arise from acrimony of the blood producing false images; changes of the seasons, as in the dreary

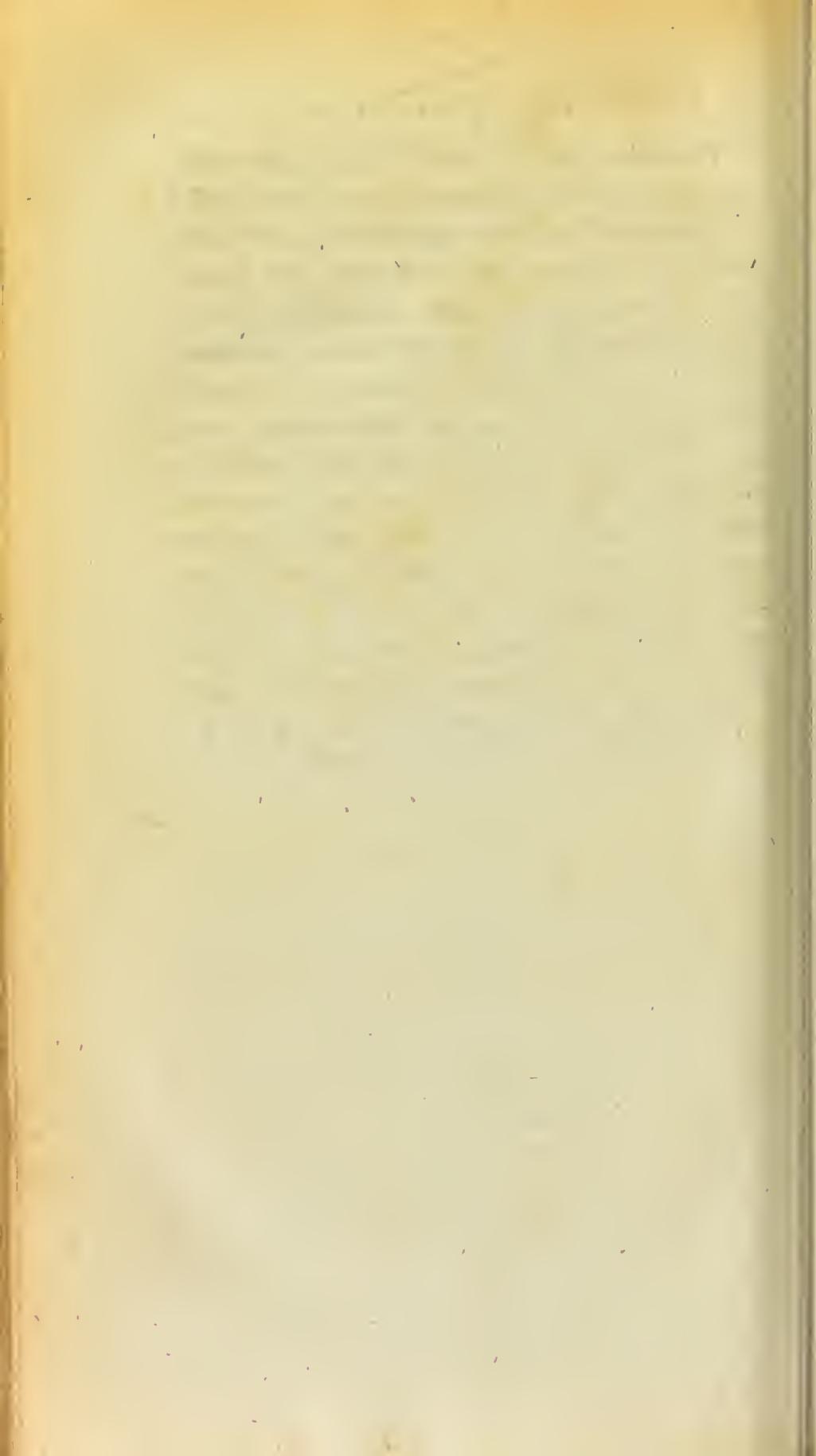
dreary month of November; imaginary or real misfortunes occupying the mind; the treatment should be similar to that of insanity.

The mind should be diverted by music, conversation, &c.; the body exercised. Evacuants, antiphlogistics, bleeding, &c., to the plethoric and florid, tonics to the debilitated, antispasmodics to the irritable nervous, and mineral alteratives to the obstructed, should be, according to circumstances, prescribed. Wherever there may be the least reason to suspect intended suicide, it is best to secure the life of the patient by a rigid watchfulness over all his actions. All instruments, weapons, or means of executing such impious and irrational intentions, should be removed.

The body should be sweated with exercise or antimorial diaphoretics, and the patient kept constantly in bed. The commission of the mischief may be thus prevented. If these directions be thought insufficient, it is better to commit the intender of suicide to the persons who receive the insane into their houses; for the cunning contrivances of persons in such a distracted state of mind are astonishing: they often elude the greatest vigilance, and will affect to be perfectly sensible, but a few moments before they commit these rash insane actions.

This

This short doctrine concerning suicide shall conclude with an anecdote of the celebrated M. *de Voltaire*.—An English gentleman of fortune had been sitting many hours with this great wit and censurer of human character. They discoursed chiefly on the depravity of human nature; on tyranny and oppression of princes; poverty, wretchedness, and misfortunes; the pain of disease, particularly the gout, gravel, and stone. They worked up each other to such a pitch of imaginary evils, that they proposed next morning to commit suicide together. The Englishman arose, and expected M. *de Voltaire* to perform his promise, to whom the genius replied, “*Ah ! Monsieur, pardonnez-moi, j'ai bien dormi, mon lavement a bien opéré, et le soleil est tout-à-fait clair aujourd'hui,*”



ON

CONVULSIONS AND SPASMS.

Convulsions or *spasmi clonici* are alternate involuntary contractions and relaxations of the muscles : *spasmi tonici*, rigid contractions without relaxation *.

Convulsions are universal, or partial, and have obtained different names according to the parts affected, or symptoms, as *risus Sardonicus*, the Sardonic laughter, when the muscles of the face are affected ; St. Vitus's dance, when the arm is thrown into involuntary motions with lameness and rotations, or other singular motions of the leg.

The hysterical epilepsy, or other epilepsies arising from different causes, are convulsive diseases of the universal kind ; the muscles of the globe of the eye throwing the eye into involuntary distortions and obliquity of situation ; or the muscles of the eyelid, lower jaw, or

* These distinctions are derived from the Greek, and are very expressive. *χλωρεω*, commoveo, to move to and from ; *τείνω*, to pull or draw, &c. In *clonic convulsions*, contractions and relaxations are alternate, as in the epilepsy : but in the *tonic*, as they are called, the member remains contracted and rigid, as in the *trismus*, *tetanus*, &c.

any

any other particular part acting contrary, and in defiance to the direction of the will, are instances of partial convulsion.

The muscles principally affected in all the species of convulsions are those immediately under the direction of the will; as the muscles of the eye, eyelids, face, maxilla, neck, superior and inferior extremities. The muscles of respiration, acting both voluntarily and involuntarily, are not unfrequently convulsed, as the diaphragm, heart, &c.

The mind can command voluntary muscles, when the parts are in an healthful sound state, to augment, or diminish various necessary actions; but in convulsive disorders the motions are irregular, not under the control of the will; but often move with surprising violence, force, agitation, and distortion.

i. The mind, in any powerful exertions, always first acts upon the heart, which being perceptible of the mental intentions, has power to send a greater quantity of blood to the head than ordinarily.

ii. The increased intentional force of mental or bodily exertion acquires a greater flow of blood to the head, and its short retention there.

The soul seems to have a power to direct this vital fluid through the minute nervous filaments of any muscles destined to voluntary motions,

motions, in conjunction with the nervous principle.

iii. Destroy the arterial influx : heat and action below the part thus impeded are nearly destroyed, or considerably diminished, if even anastomosing arteries pass to the very part.

iv. Destroy the principal nerve, irritability and perceptibility cease, or are very obscure, although anastomosing nervous filaments should extend themselves to the part.

v. It therefore appears evident, that no motion can be performed regularly and with due force by the muscles for the purposes of life, without the junction of the arterial influx of blood, and power of the nervous principle. This will hereafter be proved by experiments, which, scarcely, when well understood, admit of disputation.

vi. The increased quantity of blood and nervous principle determined by the will, give greater force and energy to the muscles ; their powers can be strengthened, or weakened by the powers of the mind ; but not without a greater or less influx of arterial blood, and nervous influence conjointly.

vii. This nervous and arterial influx which passes from the brain and its arteries through every, and even the minutest filaments of nerves, acting on the muscular fibres, in which a *vis insita* is resident, excites the muscles to action

in proportion as the nervous principle and arterial influx are greater or less*.

VIII. The muscular powers are acquired *gradatim*; they obtain additional strength by use, and lose their energy by disuse; in infancy they are scarce observable, and do not support the body in an erect posture: in manhood they acquire more vigor, according to the exercises they have been most accustomed to; whether of dancing, fencing, leaping, jumping, running, boxing, tumbling, &c.

All these are actions, which the human mind has power to direct the muscles to perform, not suddenly, nor without repeated attempts, labor, and exercise, for years, before any excellence or perfection is obtained in those bodily motions, attitudes, &c: &c.

IX. A determined resolution not to use the arms or legs, and a continued cessation from muscular action, render the muscular fibres rigid and inactive; the will cannot, after the muscles have been fixed, induce them to perform any motion; the limb becomes diminished

* Though different stimuli applied to the heart, or muscular fibres of other parts make the muscles contract after death, no such mechanical stimuli answer the purposes of life, its regular powers and actions. The heart of a shark will dilate and contract many hours after death; this I have repeatedly seen in hot climates, after the body of the shark has been eaten by the seamen.

in size, or withered, rigid, and useless. This is illustrated by some religious in India, who fix the arm in a certain position, and are never after able to move it.

To produce voluntary muscular motion five circumstances are necessary :

1. The mind acting on the heart, which sends a greater or less quantity of blood to the head.

2. The mind directs the arterial influx and nervous principle to the muscles intended to be moved.

3. The muscles intended to be moved receiving a greater or less influx of blood by the arteries, connected and running through all the *nervous medulla* by means of the *pia mater* and *tela cellulosa*, joined with the nervous principle, excite an irritation in the muscle.

4. The muscle irritated having a *vis insita*, contracts more or less powerfully, according to the quantity or force of the arterial and nervous influence commanded by the mind.

5. The mind can command the reverse of the former action ; for contracted, acting muscles, can be extended at pleasure by antagonist muscles.

In this manner, muscular actions, acquired gradually by the senses, irritation, and long practice, are performed, in all those instances nominated regular voluntary muscular motion.

Convulsions being irregular involuntary muscular actions may be caused by an increased excitement in the mind, or other irritating stimulus acting on the brain.

6. The increased excitement in the brain forces a greater quantity of arterial blood and heat in all the arteries running through the *tela cellulosa*, *nervous medulla*, and *pia mater*, accompanying, and making a considerable part of the nerves and nervous filaments, however minute,

7. This increased arterial action and heat in the nervous filaments, or the increased quantity and force of blood in the brain, when powerful action is necessary, may, by means unknown, increase the nervous influence. It has been observed, that either in *mental* or *bodily* exertion a greater quantity of blood always flows to the brain, and that the augmented quantity of blood assists in giving surprising intellectual, as well as bodily powers.

View men in violent passions; first pallor is observed from the mind summoning, or forcing an over quantity of blood to the heart. When the heart recovers its first shock, the blood is forced with great vehemence, the pulsations quicken, and the face becomes like a flame of fire, the eyes project from their sockets, and the voluntary muscles acquire additional force.

The more immediate causes then of convulsions are :

- I. Either mental affection, or any irritating, efficient, acrimonious cause exciting a greater action in the arterial system of the brain and dependent nerves.
- II. An increase of the invisible, unknown, nervous principle, which seems to hold pace, or be equipotent with the increased arterial energy excited by the mind, or other causes in the brain and nervous system.
- III. This increased energy conveying its augmented effects without the direction of the will to any muscles destined to voluntary motion, over irritates the muscles.
- IV. The muscles, irritated by an increased nervous influence and arterial influx, contract more forcibly and involuntarily by their excited *vis insita*, conjointly with the other causes, as long as the acting energy of the brain, or nervous principle, continue.

If the *vires insitae* in muscles did not augment equally with the exciting powers propelled from the brain, alternate contraction and relaxation would not be the consequence; but contraction, perhaps, without relaxation, which would produce rigidity, as in the *trismus* or locked jaw, &c. or relaxation without contraction, as in palsies, &c.

v. This increased energy in the nervous system may be excited either by the mind, or by any acrimony of the blood in the brain, or various stimuli, sufficiently irritating to increase partial or general arterial action, nervous influence, or the *vires insitae* of muscles.

vi. After muscles have been once accustomed to act involuntarily, and with increased action, the same causes can readily produce the same effects on those organs of motion; this experience daily confirms by the frequent return of epileptic or convulsive fits *.

vii. All parts that have muscular fibres may be convulsed, therefore the diaphragm, stomach, intestines, uterus, Fallopian tubes, bladder, and the whole or any part of the arterial system, may be convulsed. All arteries act by the muscular fibres of which their tunics are composed, conjointly with the *tela cellulosa*; the coats of arteries being stimulated, act with

* Persons subject to fits, on any slight emotions of the mind with facility re-produce them.

A lady of my acquaintance by mimicking a man, while she was at school at Chester, who had the *rictus Sardonicus*, with frightful distortions of the face and eyes, can now by the will, at any time, force the muscles of her eyes and face into distortions resembling the man she imitated; which is really so horribly frightful as to give pain to susceptible spectators, and induce them to shut their eyes.

greater

greater velocity, hence partial or universal heat, &c.

The sensations in the mind most capable of producing convulsions are timidity, horror, anger, great sensibility of soul, and sympathy for the calamities of friends or associates.

In female schools, any one of the girls having convulsion fits has struck the minds of the others with such fear and horror, that the disorder has spread rapidly, like a contagion; instances of which from Kaaw Boerhaave, and *Rapport des Commissaires concernant le Magnetisme animal*, &c. have been already produced.

From the singular opportunity I had while at Paris, to minutely examine the pretended powers of magnetism, it requires no hesitation to aver, that either the magnetisers, patients, or both, were most grossly deceived, or the former were impostors: magnetism had no power over the constitutions of the incredulous.

Medical practice daily confirms the mind's power in exciting convulsions amongst females; a lady, or one female servant in a house, shall often produce the same effects to other attendant females; but *boys* or *men* are rarely affected.

Sympathetic convulsions of a similar nature, Mesmer, and the other magnetisers at Paris, nominated *Les crises*, pretending they were produced

duced by magnetical powers; these glaring artifices and impositions credulity countenanced, believed, and protected, against the united voice of truth, reason, and science. Men of superior rank and erudition, genius and talents, famous for scepticism on other subjects, were the principal dupes to *magnetical fallacies*. The raging madness was very violent, but very transitory; confusion and contrition have succeeded groundless faith, blind zeal, and thoughtless error.

Convulsions being caused by emotions of the mind, *tonical, atonical distention*, or stimuli of various species, the prognosis and curative intentions should be accommodated to those different causes.

The *prognostics* of convulsions may be drawn from the force or magnitude of the causes: when convulsions have arisen from fear, and are recent, they have been cured by exciting greater apprehension from the application of a painful remedy; but when they have originated in grief, anxiety, anger, love, &c. they are apt to return on any slight emotions of the mind.

Convulsions happening from wounds of the viscera, as the stomach, the diaphragm, &c. poisons, or other accidental causes, which are
not

not now intended to be treated of, are very dangerous, and frequently fatal.

Convulsions attending parturition joined with floodings, or from large hæmorrhages, are exceedingly dangerous.

Convulsive diseases of the epileptic kind, the *chorea Sancti Viti*, or St. Vitus's dance, the *risus Sardonicus*, are all difficult, and sometimes impossible to cure, particularly if they have been of long duration.

Recent convulsions, if not arising from any fatal cause, are curable, by exact regimen and proper remedies.

Numbers have different species of convulsions during life; in these instances the disorder may be considered rather troublesome than dangerous.

The *aura epileptica*, a species of convolution originating in any contraction, wounded tendon, aponeuroses, or nervous expansion in the extremities; which creeping up in the direction of the nerves, at last excite sufficient energy in the brain to throw the whole body into convulsions, is rarely, or with great difficulty, curable, unless by cutting the nerve.

Sympathetic convulsions from visceral, menstrual obstruction, worms, &c. are often curable by removing the causes.

Convulsions

Convulsions from the *hydrocephalus internus*, dropsy in the pericardium containing the heart, or the hydrops pectoris, when serum or water is effused in the chest, &c. are most commonly fatal *.

An

* Anatomical examinations of bodies after death, from convulsive diseases.

Symptomata morborum.

Convulsiones artuum superiorenum cum paralyysi cruris sinistri excipiunt, ischuriam cum tumore circa cartilaginem ensiformem.

— apoplexiā subitanā & lethalem sibi accersunt.

— arthriticū molestant & in apoplexiā degenerant.

— invadunt melanocholicū de dolore circa scapulam querulum.

— cum capitis dolore gravativo, apoplexiā post se trahunt & prægnantem encant.

— phthisicum prehendunt quoties supinus decumbit.

— cum delirio in febre.

Extispicia cadaverum.

Aqua in abdomine & pericardio & cerebro.

Venæ encephali flatu turgidae, aqua & sanguis in ventriculis, &c.

Sanguis concretus in cerebro.

Tumores scirrhosi in cerebro, vasa sanguinea turgida, plexus choroides tuberculosus, aqua in ventriculis cerebri.

Vasa cerebri sanguine turgida, aqua intus & extra cerebrum.

Ventriculi cerebri humore flavescente turgidi.

Aqua in ventriculis cerebri.

Convulsiones

An enumeration of the various remote causes of convulsions will shew the total impossibility of

Symptomata morborum.

Convulsiones excipiunt dolores capitis inter febrem sanguinantes.

— melancholicum dolore capitis laborantem invadunt.

— ingruunt in febre biliosa, cui succedit ascites.

— cum spirandi difficultate sese adjungunt cordis palpitationi.

— quas prehendunt ventris termina lethalia.

— universales cum doloribus atrocibus, mente remanente sana in apoplexiā abscent.

— universales ptyalismum totius corporis post se trahunt.

— convulsio oriens in brachio sinistro brevi totum corpus invadit; aderat fauciūm dolor cum febre.

— variolis prægressis, fluunt aurcs, & sanguinantes capitis dolores lethales.

— capitis dolori succedunt & post se soporēm trahunt.

— presso pede cum ri-

Extispicia cadaverum.

Gelatina in cranio.

Pus in cerebro stagnat.

Hepar scirrhosum, cor dilatatum & lapidescens.

Cor mire dilatatum.

Pancreas exulceratum.

Aqua in cerebro, plexus choroides putris.

Tumor vertebris lumbariis adnatus; glandulæ mesentericæ steatomatosæ.

Serum in sinistro cerebri ventriculo & in thorace, pulmones putridi, & aqua in pericardio.

Absec̄sus in cerebro juxta ossa petrosa carie affecta.

Glandula pinealis ingens, aqua in pericardio, pulmones tuberculosi.

Tumores steatomatosi in ce-

fus

of succeeding in any one plan of cure, much less by any single medicine; as the *cardamine*, *arnica*,

<i>Symptomata.</i>	<i>Extispicid.</i>
fus & olfactus abolitione sequuntur iustum capitis.	rebro; ossa etlimoidis & frontis cariosâ.
<i>Convulsiones</i> adveniunt in colica Saturnina.	Omentum exesum, colon contractum, cæcum dilatatum.
— emetico propinato asthmaticum invadunt.	Pulmones pure exesi.
— excipiunt sputa purulenta absque ullo dolore pectoris.	Pulmones putridi.
— dextri lateris & paralysis sinistri fibi febrem lethalem adjungunt.	Pia meninx purulenta in parte sinistra, & vasa ejusdem lateris sanguine turgida.
— dolores capitis insequuntur.	Plexus choroides hydatibus exasperatus, aqua in cerebro.
— post insolationem.	Cerebri durities.
— cum cæcitate succedunt doloribus atrocissimis.	Abscessus cerebri prope ventriculos.
— cum delirio post capitum vulnus.	Intestina contracta, cerebrum putridum.
— pleuriticum tormentibus ventris laborantem invadunt.	Intestina inflammata.
— chloroticam cum spirandi difficultate cruciant.	Pia meninx varicosa, gelatina in cerebro.
<i>Convulsiones succedaneæ</i> : hæmorrhagiæ narium.	Meninges ossæ.
— — spirandi difficultati cum dolore pectoris.	Latex albicans in thorace & pulmones pure exesi.

Convul-

arnica, &c.; for remedies proper for one class of causes may be highly injurious for others.

All

Symptomata.

Convulsiones post vulnus in-
flictum occipiti.

— — item.

— — item.

— — animi pertur-
bationes & interea difficultis
trahitur spiritus.

— — post casum ab
alto ebrium invadunt & deli-
rium furiosum sibi adjungunt,
donec recurrentes ægrum ju-
gulent.

Tetaxos. Juvenem lithiasi
laborantem corripit quoties
decumbere tentat.

— — succedit delirio post
capitis contusionem orto.

— — ebrium invadit.

Convulsiones vomitum ce-
phalalgiæ succedaneum exci-
piunt.

— — affiduo recur-
rentes dysuriam accersunt.

— — ingruunt in fe-
bre maligna epidemica stipata
cardialgiis & doloribus.

Convulsiones in diarrhœa bi-
lioosa cum animi deliquiis fre-
quenter recurrentibus.

Extispicia.

Pus inter pyxidem osseam
& cerebri involucra.

Abscessus in cerebri latere.

Pus in cerebro.

Pulmones putridi.

Cranium illæsum, sanguis
effusus inter hemisphærium
dextrum cerebri & duram ma-
trem.

Calculus in vesica latens.

Aqua in ventriculis & juxta
basim cerebri meninges putri-
dæ.

Gelatina in cerebro.

Viscera putrida.

Calculus in rene sinistro.

Ventriculus, intestina, &
mesenterium putrida ; liqua-
men in abdomine.

Hepar ingens & inflamma-
tum, cystis fellæ inanis : in-
testina flatulenta, liquamen in
abdomine.

Convulsiones

All things which excite or act as stimuli on the brain, or nerves. Inanition, repletion, and irritation, are the principal causes of convulsions.

To

<i>Symptomata.</i>	<i>Extispiciæ.</i>
<i>Convulsiones se adjungunt, buboni pestilentiali.</i>	<i>Cor sanguine turgens, pulmones inflammati; hepar ingens, cystis fellea bile turgida.</i>
— — — ventris torminibus.	<i>Intestina flatulenta, passim gangrenosa.</i>
— — — affectui sponorofo.	<i>Lien magnus & quasi osseus: aqua in cerebro, & gelatina juxta tractum vasorum meningis.</i>
— — — hydrophobia.	<i>Pulmones sanguine concreti infarcti.</i>
— — — ischuriæ.	<i>Renes calculis aut pure infarcti.</i>
— — — febri tertianæ.	<i>Cor marcidum.</i>
— — — doloribus vesicæ.	<i>Calculus in vesica.</i>
— — — capitis gradini.	<i>Aqua in cerebro.</i>
<i>Convulsiones apoplexiae comites, mortem afferunt subitaneam.</i>	<i>Vertebrales & carotides arteriae disruptæ.</i>
<i>Convulsio succedanea apoplexiæ.</i>	<i>Meninges officæ.</i>
— — — animi commotioni.	<i>Cerebrum putridum.</i>
— — — vomitioni sanguinis inter febrem quartanam exorienti.	<i>Aqua in thorace & cerebri ventriculis.</i>

Convulsiones

To *inanition* belong hæmorrhages, fluxes, effects of strong purgings, the body exhausted by venery, lactation, labors of body or mind, protracted wakefulness, acute or chronic diseases, exhausting the human body.

Symptomata.

Convulsio succedanea post labores immodicos quicdam corripiunt.

— — — inter dolorem & tumorem abdominis.

— — — post febrem len-tam.

Tetanos, sævit operatione castrationis peracta.

Opiſhtostonos, ebrii in solo decumbentis.

Extispicia.

Sanguis in vasis cerebri stag-nat.

Mesenterium hydatidibus infarctum.

Medulla oblongata colluvic flavescente inquinata, &c.

Peritonæum inflammatum.

Gelatina in ventriculis cerebri.

EXTISPICIA post convulsiones.

Ventriculus & intestina constricta, bilis effusa in ventriculo.

Ventriculi cerebri turgent aqua subcærulea, diaphragma & hepar inflammata.

Pus in basi cranii stagnat.

Vermes sub crano delitescunt, meninges croſæ occurunt.

Cerebrum putre.

Meninges inflamatæ.

Pulmones putridi.

Gelatina in cerebro.

Lumbrici in intestinis.

Intestina contorta.

Renes succenturiati perquam tumidi.

Pia meninx inflammata cerebro inculpato.

A a

To

To *repletion* belong over-action of the sanguiferous system, plethora, accumulations of serum or coagulable lymph, retentions of pus, cacoxyilia, cachochymiae of various species, suppressed evacuations, &c. &c.

To *irritation* belong affections of the mind, pains, wounds, falls, abscesses, too great sensibility in the nervous system, lesions of the brain or nerves, poisonous vapors, acrid remedies, poisons, acrimony, as arthritic, venereal, scrophulous, scorbutic, &c.; worms, stones in kidneys, bladder, or in the bile ducts, &c.; dentition, mechanical stimuli, hereditary affection, the mother's imagination during pregnancy, hard labors, &c.; extreme cold or iced water have suffocated some, and stopped respiration; the application of cold to the feet or other parts.

An extravasated humor, on one side of the brain, has excited convulsions on the opposite side of the body, which is observed to be almost constantly the law of nature; the cure, therefore, should be directed accordingly.

The *general prognostics* in convulsions are: if hereditary, or chronical in a body very weak, the disease is rarely curable. From repletion easier cured than from depletion; for it is easier to evacuate than restore to the body its former salutary

salutary juices : convulsions are worse amongst adults than in youth ; for in the latter they commonly arise from a lighter cause than the former. Convulsions in men are more unfavorable than in women ; because the nerves of the latter are most susceptible. In acute fevers a bad omen ; in the small pox, before the eruption, favorable ; in the secondary fever most dangerous, because they arise from re-absorption of the putrefactive variolous matter. Light convulsions are not injurious to pregnant women, according to Smellie ; but I have seen them fatal when they happen in labor with floodings. When violent, during pregnancy, they injure, or sometimes destroy the foetus. In the *tussis convulsiva*, or hooping cough, salutary, for they force up the offending matter. Sneezing, in sleepy, apoplectic, or lethargic diseases, is a good sign. Convulsions, frequently returning, promise no good : they are most common to infants and hysterical women. In India, Bon-tius asserts, that the *spasmi tonici*, as the tetanus, trismus, or locked jaw, or rigidity of contracted muscles, are, at times, endemical.

I have seen the tetanus both in America, and West-India islands, happen from very light causes, as slight lacerated wounds of the fascia, of tendons in the wrist or instep, and in punctures, fevers, gun-shot, or other wounds ;

in which the common modes of treating at that time, by musk, camphor, opium, and hot bathing, did rarely succeed in a variety of instances*.

In the *cure* of convulsions, three general modes of treatment are requisite, which, however, should be judiciously accommodated to individual patients and circumstances.

In convulsions from inanition, the cure requires repletion, which should be gradually introduced into the habit, consisting chiefly of light but nutritious diet, such as will assimilate with the least labor to the stomach, as beef tea and bread, or other broths without fat, given in small quantities, or meats boiled or roasted, when the stomach can digest them; milk diluted with water, &c.; medicated waters, as the Hampstead, Tunbridge, or Seltzer, bark, and steel. These to be applied between the periods of convulsive fits.

The convulsions during dangerous hæmorrhages require peculiar treatment; the effusion of blood is arterial. Blood should be drawn

* See *Medical Advice to the Army and Navy serving in Hot Climates*, with the modes of preserving health, curing fevers, fluxes, &c.

from the veins to assist in conveying that fluid in its proper channels, and to remove spasm.

If convulsions arise from fulness or repletion, bleeding largely and evacuating cathartics are to be prescribed, with a very abstemious *dry diet*, either to adults or infants, except they be owing to the small pox, &c.

Vesicatories are recommended in almost all cases of convulsion, but, I think, imprudently: they act as stimulants; and where an overfulness is stimulating and convulsing the body, they are contrary both to sound reasoning and congruous medical practice.

Blisters may be more judiciously applied in cases of convulsions from inanition, where a torpidity or languor is induced; or in the cases arising from irritation, in order to excite a new stimulus, or divert the attention to parts remoter from the brain, &c.

Suppressed evacuations exciting convulsions, should be treated according to the species, whether they be menstrual, hæmorrhoidal, fecal, urinal, or perspirable, enough of which has already been delivered.

If irritations excite convulsions either of body or mind, tepid or vapor baths are frequently useful, particularly the former, in the convulsions of infants, whether they be from worms, dentition, or fever. *Hippocrates* recommends

warm fomentations' to mitigate convulsions; for they relax and diminish the tension, and loosen the parts contracted. *Celsus*, likewise, speaking of convulsions affecting the muscles of the neck, has, “*itaque plerique aqua calida multa cervices subinde perfundunt.*” This is a present alleviation. If worms irritate the intestines, anthelmintics should be prescribed; several specimens of which are given in the former part of the present work.

If from acids in the *primæ viæ*, antacids, as magnesia, pulvis e chelis, calcined oystershells prepared with or without rhubarb, are proper for children; but if plenitude abounds, bleeding in the jugular should never be omitted,

Lime water is likewise an excellent corrector of acidity; but perhaps more adapted to adults than infants; volatile alkaline spirits, &c.

The *flores zinci* are much extolled by many in epileptic cases, to one or two grains with sugar dissolved in some medicated or common water; and they are most proper when the use of tonical remedies are indicated.

Convulsions, from *venereal infection*, can only be cured by fialagogues or other anti-venereal remedies, &c.

Opium has lately been much recommended, particularly by practitioners of reputation, as a sovereign antispasmodic in convulsive diseases.

diseases. As a physician of long experience and observation, I must remark, that, in this country, it has done considerable mischief. In the *plethora*, it renders the circulation tardier, thickens the blood, increases the fulness, and produces costiveness, at a period, and in cases where evacuations are absolutely necessary, checks the secretions and excretions, and therefore it is ineligible.

Where convulsions arise from *inanition*, or hæmorrhage, *opium* is less exceptionable; but it is contradictory to the use of *tonics* and *nourishing diet*: for opium palls the appetite, renders the performance of digestion and chylification feeble, retards, or, in a certain measure, prevents the generation or absorption of a laudable and nutritious chyle. As a palliative only, then, should opium be used in cases of convolution from inanition, hæmorrhage, &c.

In *convulsions* from *irritation*, *opium* has often increased the symptoms, and produced delirium; and certainly no judicious physician would prescribe a mere palliative remedy in hopes of alleviating a smaller evil, and risque the production of a greater.

Opium, therefore, should be cautiously prescribed: it is seldom a *cause-removing* remedy; but as a *palliative* may, in some instances, be useful.

It should be observed, that, in the modes of treatment recommended in this work, the deep causes of diseases are investigated, and attempted to be removed : the total eradication of complaints, according to their visible, and respective causes, not a mere palliation of symptoms ; which last, though much in fashion, only comprehends a very superficial knowledge of medical practice.

Castor, musk, assafætida, valerian, or camphor, are certainly useful antispasmodics ; but it is much doubted whether these extend their effects much farther than to palliate symptoms, except in slight cases. For such purposes, these last-mentioned antispasmodics are very necessary ; while the more powerful cause-removing and eradicating remedies are applied according to the various causes which gave rise to the convulsive diseases.

In convulsions from wounds, fractures of the head, or wounded nerves, the assistance of surgery must be solicited ; but in hot climates all remedies whatever frequently prove fruitless *.

Mechanical stimuli are to be removed by art, or obtunded by remedies, &c.

These are general doctrines on convulsions.

The

* After the Havannah had surrendered to the English in 1762, a man was a patient of mine, who, with others, had been

The particular *curative indications* in convulsed diseases are to be formed from their causes, considered separately or conjunctly.

When clonic convulsions arise from great perceptibility, or emotions of the mind, placi-dity must be attempted by the patient, or me-dicine may not much avail. There are very few cases, however, of convulsion in which the state of the body does not require medical at-tention.

Great mental sensibility is generally accom-pañied, as before was observed, with a certain sharpness or acrimony in the blood; in which instances the remedies should be accommo-dated to the natural and peculiar constitution of individuals, whether they be florid, plethoric, and robust, pallid, thin, and debilitated, or laboring under some prevailing acrimony.

Convulsions, in which may be observed youth, floridity, *plethora sanguinea*, and increased ac-tion of the arterial system, repeated bleedings, antiphlogistic evacuants, camphor, nitre, and

been to the Bay of Matances ashore in quest of limes, &c. In jumping over pales he was catched by his wrist, and, ap-arently, a slight punctured wound was the consequence. Soon after the man had a *locked jaw*; his mouth was open-ed a few days by the *speculum oris*, and opium, musk, cam-phor, bathing, &c., were administered; but strong convul-sions succeeded, and this wound, which appeared a scratch, proved fatal, which is no uncommon event in hot climates.

other

other neutral or alkaline salts, are to be prescribed, with an exceeding *spare* and *dry diet*, similar to that recommended already in the mania.

Periodical or other usual evacuations are to be promoted, if necessary, as menses, perspiration, &c.

The quantity and force of the blood should be decreased, and its re-accumulation prevented, by only using half the accustomed quantities of cooling liquids.

Stimulants of every sort should be avoided; neither blisters, cordials, nor volatiles, should be prescribed.

In *atonical convulsions*, comprehending debility, great sensibility of the nervous system, a lax state of the blood, feeble yet quickened arterial action; laxatives of the bitter class should be administered conjointly with fetids, morning and evening, to prevent or remove constipation.

Blisters, as evacuants, or stimulants, applied to the neck, back, or legs, are proper; cordials, antispasmodics, and sometimes stimulants.

Bark and vitriolic preparations, *colcothar of vitriol*, *sal martis*, *rubigo ferri preparata*, the *flores zinci*, or small doses of the *vitriolum album*,

bum, with bark, have, under my own inspection, much mitigated, rendered the paroxysms more distant, or entirely cured epileptic and other convulsed diseases, when united with a dry regimen.

The diet for the *atonical cerebral distention*, and debility, should be more nutritious, but light, and half the usual quantity of liquid food ordered; but, instead of cooling drinks, a glass of porter, or wine is preferable.

The *arnica* has been much extolled in Germany for the cure of epilepsy, palsies, &c.; but as convulsive diseases arise from many distinct and opposite causes, a physician must have no small portion of medical faith, and very little experience or judgment, who can suppose any single remedy capable of answering such a multiplicity of opposite intentions. I am certain no medicines will permanently cure any species of *convulsions*, or other *chronic* diseases, without an *exact regimen*, which must continually be varied with remedies, according to constitutions and circumstances, by the skill of the medical practitioner *.

Cold and sea bathing, change of air, exercise, and amusements, to divert the mind from
con.

* The *arnica* cured many cases of convulsions, according to Collin, and certainly may be tried. Its virtues are emetic,

contemplating on bodily affliction, contribute greatly, as auxiliaries, in obtaining the cure of these violent nervous affections.

Palliatives are numerous, and very useful in mitigating symptoms, though every day's practice proves their inefficacy in all the species of convulsions : fetid remedies, as musk, castor, camphor, saganenum, &c., valerian, sp. volat, fœtid. assafœtida joined with spiritus lavendulæ compositus, or spiritus salis ammoniaci, oleum succini, ol. cajaput, arnica, cardamine, or ladies' smock, recommended by *Ray*, &c., alchymilla, &c., &c., are in great esteem in convulsed diseases. In some slight cases, volatiles and fetids have performed the cure of convulsions ; but they certainly are not to be depended on as effectual cause-removing remedies.

The *oleum animale verum Dippelii*, which is not easily obtainable in this country, has been much recommended in various parts of Germany and the Continent, from chemical piety and enthusiastic credulity, as possessing powerful virtues in convulsed, epileptic diseases*.

The

tie, errhine, diuretic, diaphoretic, and emmenagogue. It is likewise recommended in palsy. It has a flyptic taste, and becomes black with a solution of *vitriolum martis*. The dose of a dram in infusion is given night and morning: it seems more calculated for the relaxed than the plethoric.

* I have met with several ingenious German chemists, while I was in Germany, very full of enthusiastic, pious credulity,

The nauseousness of the common *oleum animale* may frighten away the disease; as happened by Boerhaave's remedy of the red-hot irons exciting a terror in the mind superior to the terror that produced those contagious convulsive fits amongst the children at the Orphan House. I have seen both the common as well as the *oleum animale* Dippelii often fail, but never succeed,

dulity, living in constant expectation of *heaven* showering down *gold* from their chemical labors, or universal remedies to cure every disease. These are commonly men of warm passions and weak capacities, by which they often impose their visionary chemical flights, first on themselves, and then on others. Chemistry, judiciously applied, is one of the noblest and most useful arts, particularly in medicine: it generously affords us the most certain of all remedies. But when a passion for chemistry leads men to suppose they comprehend medical practice, without the necessary knowledge and experience, nothing can be more erroneous nor injurious. I have known several deluded men of this class, chiefly imported from the Continent, who have, some intentionally, others undesignedly, extracted considerable sums of gold from my credulous countrymen under various false pretences of *chemical secrets*, which have all evaporated *in fumo*, when the parties, sworn to secrecy, have been duped out of all the ready cash they possessed. One person I know, living, at present, in extreme poverty, who once possessed 30,000*l.* Sterling, but was pillaged of the whole by chemical believers, pretenders, and hypocritical impostors: therefore some caution is necessary whenever new chemical medicines, or reasoning, are received into practical medicine; but this will be more clearly proved in my Treatise on *Mineral Alteratives*, in which many chemical errors will be explored.

in

in totally eradicating convulsive diseases: they are certainly allayers of irritation, and may be used whilst more important cause-removing remedies are administered.

Convulsions, originating in any specific or anomalous acrimony of the blood, or particular system, require the remedies proper for the prevailing diseases*.

If convulsions are evidently accompanied with scrophulous symptoms, as tumefactions of the upper lip, or strumous swellings in the lymphatic glands about the neck or throat, the metallic alteratives are chiefly to be depended on as cause-removing remedies.

Glandular or *lymphatic tumors* about the throat, by compressing the returning internal and external jugular veins, cause swelling and redness of face, and sometimes violent pains in the head, and convulsions. I lately cured a very dangerous case of this nature by a solution of tart. emet. and merc. corros. sub. in very

* The venereal or scrophulous, as attacking the lymphatic system in different modes, the gouty or rheumatic, as exciting pain in the joints or muscles, I call specific acrimonies; but where the blood is so acrimonious as to excite anomalous diseases, without any specific symptoms of gout, rheumatism, scrophula, venereal, or scorbutic disorders, this may be called an anomalous acrimony, or depravation of the blood and other fluids, &c., &c., *sine nomine*.

small doses, joined with a strong solution of camphor, nitre, and extreme dry diet.

Every other species of chronic-prevaling acrimony causing convulsions, from affecting the vessels of the brain and its appendages, are rarely curable by the common fetid medicines, but are often permanently removed by long-continued courses of metallic alteratives, prescribed in the modes I have invented and long experienced, joined with a judicious regimen*.

Symptomatic convulsions, from worms, affections of the viscera, or any specific disease, the primary causes being removed, the effects will consequently cease.

From the numerous effects of convulsions, already delivered in the anatomical examinations after death, it must seem very evident what were the causes.

The major part of dissections exhibit the brain and its membranes to have been in a very morbid state, vertebral and carotid ramifications or arteries ruptured, accumulations of pus, turgency and stagnations in vessels, or effusions of serum in the cerebrum, medulla oblongata, ventricles, &c., the heart itself di-

* See Observations on Metallic Alteratives, their preparations and important uses.

lated, the viscera morbid, the apparent effects of inflammation, or chronic diseases, &c.

These accumulations could not have been in those parts but by increased action in the exhalent or vapor-effusing arteries pouring forth a greater quantity of fluids than the veins could absorb, and an increased energy in the irritated nervous influence itself, exciting preternatural action, &c.

If the vessels or cellulous cavities of the *tela cellulosa*, which compose the membranes in the brain, be much distended either with air or fluids, the brain itself will exceed its usual dimensions, and, by meeting with resistance on all sides from the bones of the scull, all the effects of irritation, or compression of the medulla, or cortical structure may be produced, in proportion to the enlargement of the cerebrum; cerebellum, or thickened membranes, &c. A slow weak pulse, comatose symptoms, lethargy, and death, may be the consequence.

This may happen without fractures, depressions, or other injuries of the scull, or concussions of the brain, &c. &c.

Distensions of vessels, or accumulations in the cellulous cavities of the *tela cellulosa* of other parts, produce evident tumefaction, where there is no compressing resistance like the bones of the scull; as in the *anasarcaous dropsey*, tumors from inflammation

inflammation or contusion, &c.; but, within the scull, compression in the *adult* must be equal to the brain's increase in magnitude, as every reasoning and well-informed anatomist or physiologist will readily acknowledge.

Various experiments shew that the brain, committed to evaporation, loses 8508, 8450, 8100, or 8096 parts out of 10,000, or 24 parts out of 25 of its weight, which demonstrates the natural humidity of the brain.

In the fœtus the brain is almost fluid, and similar to serum; there appears little or none of that medullary or cortical consistency which marks the brain of the adult, and is the probable cause of the destitution of sense in the fœtus, or infantile stupidity. As the fenses give impressions, and the mind enlarges, the medullary and cortical substances of the brain become more solid, or of a firmer consistence, though always containing a great quantity of fluids.

1. The brain, in its healthful or sound state, is perfectly secured from concussion, except from very great violence, by the *processes* of that strong membrane the *dura mater*, and surrounding bones.

2. The cerebrum and cerebellum thoroughly, and most exactly, fill their respective cavities formed by the *dura mater* and cranium; &c.

3. The *dura mater* so closely coheres with the internal surface of the scull, that the impressions of its blood vessels appear on the bones in *furrows*.

4. All these facts, collectively considered, must prove that the brain is very much compressed, and confined on all sides and in all parts by the scull.

5. If the brain be so intimately connected with the *dura mater*, and this latter with the bones in a sound state, which cannot be denied, the ill effects of the brain's enlargement by distentions of vessels may be easily comprehended; or from a surcharge of serum or humidity, poured forth and retained in the *cellulous cavities* of the *tela cellulosa*, which composes not only membranes, but all coats of vessels, except the muscular.

6. The exhaling or vapor-effusing arteries do positively pour forth a fine subtile vapor into every part of the *medulla* and *substantia corticalis* of the cerebrum and cerebellum.

7. The vascular structure of the *pia mater*, or the cellular structure composing that membrane, may be considerably enlarged by over-distention of vessels, or accumulation of serum, exclusive of irroration of the fine *fluids* transuding the cortical and medullary structure of the brain.

The internal carotid arteries and the vertebral continue conveying, by their impelling force, a fresh supply of blood, or exhaling vapor, to vessels, cells, or interstices of the *cortical* or medullary substance of the brain, already in a state of distention*.

8. The orifices of the smallest vessels pour out humidity in form of a fine subtle *vapor*, not only into the cavities of the cellular structure of the *pia mater*, but between the most minute interstices of the medullary and cortical substances of the cerebrum and cerebellum.

9. The *ventricles* of the brain have been so enlarged by an effusion of *serum*, not *coagulable lymph*, as to contain 1, 2, 3, 4, 9, or 13 pounds of water; but this has happened in in-

* Bergerus de Nat. Humana 283. Ex calore plexus choroidei exhalat vapor, qui collectus facit aquam in ventriculis cerebri; haec aqua est pellucida, quam igne non concrescere, sed omnem exhalari cum J. Zambuccaiio, existimat Bellini: quam nos quidem limpidam semper, factaque exhalatione, nihil glutinis vel albuminis, at tenuem interdum pelliculam relinquere observavimus.

I have made repeated experiments on the *serum* found in the ventricles of the brain, and find it exhales by heat; but have never observed it to concrete, as is common to the *coagulable lymph*: for this and other reasons, I am certain the *minute sanguiferous veins* absorb and reconvey the fine serum and most volatile and aerial particles of human fluids to the blood.

sants, where the bones were capable of receiving *.

10. The veins, from being compressed on all sides, or the minute mouths of the veins opening into the cellular cavities of the *tela cellulosa*, or the capillary veins united to arteries having lost their tubular attraction, or propelling force to send the blood to the returning large venal trunks, may be separately or conjointly the causes of the blood not passing off with

* Halleri, Elem. Physiol. Vol. viij. 7. de aqua ventriculorum.

" Ne lacunar ventriculi, pavimento connascatur, vapor factus, qui undique de membrana ventriculum vestiente, deque plexibus exhalat, & modico madore omnem internam cavitatem superficiem oblitum. Hic vapor non semper in aquam colligitur, atque in recentissimis cadaveribus absit nonnunquam. Ex arteriis exhalat vapor. Venarum officium quoties languet, solet autem in chronicis morbis languere, toties collectus mador in aquam colligitur & mole memorabilis ventriculos cerebri distendit. In apoplexicis, seporosis, phrenicis, lethargicis, convulsis, paralyticis, febribus variolosis epidemicis, affectibus catarrhalibus, aqua uberioris in ventriculis fuit reperta, in hydrocephalo etiam magis.

" In cerebro hydropico 3113; inque ventriculis 1, 2, 3, 4, 9, 13, libras per periodus visas esse. Librae 4. 3xj. in facie a cerebro facta. Caput ob aquam in ventriculis collectam adulti, capitae aequale."

" Aqua fuit inventa in phrenitico ad Ibj. in maniaco fulpido, cephalalgia, delirio, epileptico. Ingenium ei est genitum, " latinosum,

with a celerity equal to its transmission from the arteries.

II. Thus congestion may succeed congestion; but as the parts distending or distended meet with an insuperable resistance from the bones of the adult scull closely surrounding them, all the effects common to membranous distention may be comprehended; as irritation, inflammation, or a quicker circulation in the part, dilatation, pain, convulsions, compression, stupor, lethargy, death.

If the fluids of the whole body, or of the head in particular, had been timely diminished in many of those cases where death ensued from

" latinosum, affuso acore minerali, aut vini spiritu aut igne in
" membranas coit. Hewsonus coagulabilem esse negat."

Cause sunt glandularum obstrukciones. Tumores aquosi
visi; spina bifida in lumbis, in occipite, in fronte, collo, dorso,
lumbis frequenter, pectore, osse sacro.

Spina bifida rarer est morbus in adulto hominie; medulla
eamen spinalis aqua tumens visa est.

I have seen a few instances of the *spina bifida*, and one, a very remarkable case, in an infant, whose mother I attended in labor in the year 1769. The medulla spinalis was laid bare by a kind of fissure, from the posterior process of one of the lumbar vertebra being wanting. The child lived a month, had the use of its lower extremities; but on the thirtieth day died convulsed. I gave this preparation to my friend, and preceptor in midwifery, the late Dr. Colin Mackenzie, of St. Saviour's church yard.

convulsions, does it not appear rational to every reflecting and candid physician that those fatal effects might have been, in many instances, prevented? — If there were not a great quantity of blood for the heart and arteries to force up to the brain and its membranes, those parts could not be irritated by turgency, though they might by the acrimonious quality of the blood; but this being corrected by mild alteratives and regimen, the convulsive motions would cease *.

In all convulsive disorders, then, let a strict *dry regimen* be observed; which certainly diminishes the quantity of fluids in the whole human body: but this neglected, all medical prescription will prove feeble or ineffectual.

It is not only necessary to observe a *dry diet* during the cure of maniacal and convulsive diseases, but the same mode which cures should be *continued through life* by those who wish to prevent a relapse of those melancholy, grievous, and frightful disorders.

It may be observed, that many eat, and particularly *drink*, much more than the constitution requires. People in health may indulge their appetites, perhaps, without immediate mischief; but, in diseases, patients should submit to the regimen most adapted to their complaints, or

* When the *air* is moist and cold, the human fluids are augmented; when dry and hot, decreased.

they unjustly censure medicine for a failure in its curative attempts.

In chronic complaints, a due regimen will perform much more without medicine than a load of remedies without an exact regimen. This is asserted from above thirty years attentive observation, in as full medical practice as ever occupied the attention of any single physician*. The difficulty medicine labors under in gaining an ascendancy over patients, to acquire a strict compliance in what regards diet, though even for their own benefit, is well known, and too often experienced : it made a very respectable physician declare in his writings that every sick person had a right to kill himself after his own fancy. It is, however, the duty of medicine to apprise irregular patients of the consequences of their misconduct in the most solemn and humane manner : it may certainly advise, though it cannot enforce its useful precepts.

Maniacal or chronical convulsions are not attended with fever, heat, nor thirst ; therefore large portions of drinks are not requisite. If,

* Patients, who disregard all prescribed regimen, are apt to examine how physicians diet themselves. In perfect health, an exact regimen is neither necessary in food nor drink ; it would be very strange to expect physicians should diet themselves because their patients are sick.

from the rigid dry regimen, a strong desire for more drink should be excited in the mind than should be reasonably allowed; the mind being impelled and directed to a new desirable object, may be diverted from those mental perturbations which have occasioned the insane symptoms, by which the mental causes may, in time, be greatly diminished, or, perhaps, totally obliterated. Stronger ideas from bodily sensations enfeeble or exterminate, *pro tempore*, the weaker or more moderate. Cutting or burning excite a stronger emotion in the mind than itching or scratching; acute pains, than obtuse.

From all which may be inferred, independent of other important circumstances, that a diminished portion of liquid aliment may not only strike at the root of diseases arising from distention, but likewise, as far as the soul is concerned, introduce a new object for the mind's attention, instead of that which gave birth to its alienation.

It appears rational, from the anatomical facts, that the due intercourse between the soul, brain, and nerves, is evidently interrupted by distension of vessels and cellular structure of membranes, or acrimony irritating or compressing the soft pulpy structure of the medullary and cortical substance composing the brain and its membranous parts.

The

The medullary and cortical substance being irritated by acrimony, or compressed by the distention of vessels, cellular structure, or by a plenitude of their fine fluids transfused through their minutest parts, they cannot receive the regular impressions of the soul, nor convey such impressions to the nerves or moving muscles.

Involuntary muscular contractions are excited, or muscles become rigid, from an over excitement of the nervous influence and arterial influx, or from an increased or diminished power of the *vires musculorum insitæ*.

The causes that exist in the brain may extend to the nervous filaments, their medullary and vascular structure in all parts, and produce inordinate or irregular effects: in the brain, mental distraction; in the muscles, involuntary actions, or convulsive motions.

Diminishing the quantity of fluids, or correcting the vitiated acrid quality of the blood, are the grand curative objects: these desirable ends, evacuants, abstinence, or correcting metallic alteratives, frequently effect.

In whatever point of view the theory may appear, it may be asserted, from long practical experience, that the modes of treatment in convulsed diseases, resulting from the antecedent reflexions, have, in numerous instances, succeeded:

eeded; this certainly is the most important object in medicine.

A variety of experiments, proofs, and arguments might be still adduced to support these doctrines; but they will appear in the *Schola Medicinæ* with greater propriety.

After these general doctrines concerning clonic convulsions, the particular species may be introduced; the treatment of which will be easily conceived from what has been already mentioned.

Of the cereal Convulsion, or Convulsio cerealis.

The *cereal convolution* is a singular disorder of the spasmodic convulsive kind, not common to this country, but mentioned by Cartheuser under the denomination of *convulsio cerealis*, from the peculiar tingling and formication perceived in the arms and legs; *motus spasmodicus vagus*, by Hoffman; and in German it is called *kriebelkrankheit*, or *krämpfsucht*, of which a learned treatise has been published by Dr. Buddæus.

The disease is described in the following manner:

A lassitude is first felt in the limbs, a heavy grievous pain in the head, an oppression of the praecordia

præcordia and anxiety; then follow twitchings or *subsultus spastici* in the fingers or feet, sometimes in one, sometimes the other side, with a most troublesome sense of formication. In progress of time the disorder proceeds to all the superior and inferior extremities; the trunk of the body itself is invaded with a particular stricture in the muscles, contortion of the limbs, and painful rigidity. There are likewise vomitings from the irritating causes acting in *primis viis*; cardialgia, tormina, voracity, dilatation of the pupils, and not unfrequently an excretion of worms; dry gangrene, &c.

The disease invades with a sudden and great loss of strength, or *prostratio virium*, which shews the penetrating, poisonous, and septic or putrid-tending quality of the causes.

After the pressing symptoms have been subdued, there always remained a very great debility in the limbs, so that the patients hardly were able to walk or to stand upright on their legs.

The disorder is sometimes solved by sweats, or a diarrhoea; but most commonly it destroys life by apoplexy, epilepsy, delirium, atrophy, or by an internal mortification. It not unfrequently terminates in madness, stupor, palsy, or obscurity or loss of vision from a *gutta se-*

rena. Some suffer a relapse*; others recover. It is endemical in some places; but more a rural than urbanical disorder, which spares neither age nor sex, but principally infests children. Some physicians account it epidemic and contagious; others not: what *Hippocrates* affirms, *Galen* denies, according as they perceive things differently. Every physician may study and practise physic; but every physician does not equally possess powers of discernment and judgement to distinguish with accuracy: hence so many contradictory opinions on the same subjects. Moderate abilities are common; superior mental faculties scarce: but ex-

* *Anatomical dissections after death.*

Vesica fellea magna, plena, bilis copia in venis gastricis loco sanguinis, inflammationes erysipelatodes hinc inde in superficie pulmonum, hepatis, lienis, ventriculi, intestinorum, mucrone cordis.

Quod ultimum phænomenon de caustica i[n]dole hujus frumentacei veneni satis superque testatur, quum ex plurium venenorū assumptorum effectu idem saepissime consequatur.

Ex observatis Brunnerianis constat corpora hominum hoc morbo correptorum jam durante affectu sphacelosa reddi coepisse: unde sepulturam mortuorum, non citra præguantes rationes urgendam suadet, ne corruptio ista sphacelosa colliquatione sua effluvia latius per aera diffundat & in contagiosam indolcem convertat.

From hence it appears how seriously Brunner considered the disease and its putrid consequences, when he could be so solicitous to have the dead, as soon as possible, buried.

extraordinary

extraordinary genius as seldom appears in medicine as in the fine arts of poetry, painting, and sculpture.

The disorder, however, is not epidemical; for opulent people, who are not necessitated to eat spoiled corn, never experience its attack, though whole villages of the poor are suffering at the same time and place from its dreadful devastation*.

The

* *Wepferus, de affectibus capitis, p. 556.*

“ Marcus M. ex pago Ebner mense Septembris 1693, passus est morbum convulsivum, quem vocant *Kriebelsucht*; “ tunc in hoc pago epidemium, qui adhuc non paucos affligit: “ non percipit pueris, puellis, fæminis aut viris, adultis aut “ senibus. Incipit cum sensu formicationis in manibus & pedibus. Sequitur spasmus flatulentus: caput quibusdam dolet, “ aliis non valde. In principio V. S. adhibent, quibusdam illa morbum præcavit: *Marcum* non juvit. Post principium vero manus & pedes convelluntur valde, ut ejulare & exclamare cogantur. Quidam delirant sine convulsionibus. Uxor Marci valde doluit in capite & deliravit, non tamen convellebatur. Duravit paroxysmus per dies 14 dia tamen mentem non recuperavit, &c. &c.

“ Causam adscriperunt *Pagi* incolæ seu uredini seu ustilagini frumentorum, quuin ante annum ros melleus frequenter frumenta oblinens, ob lentorem attactis spicis adhaeserit digitis: semina forinsecus nigricabant, intus candebant, & multum nihilominus farinæ suppeditabant. Ob annoe caritatem semina nigra non separabat *Marcus iste* & alii a sano frumento, reputantes nullum damnum allaturum, &c. &c.

The causes of this disease have occasioned contentions amongst different physicians. Many attribute its origin to recent rye, bad bread, or corrupt, mildewed, rusty wheat. Many deny those causes ; because some few eat rye in those places voraciously without injury, particularly people who cleanse their grain : this, according to my reasoning, is a very superficial objection, and scarcely merits refutation. If some escape the contagion in the small pox, it is no proof that the disorder is not contagious : nor is it a truth that Goulard's extract is not a poison, because one gentleman drank two ounces, and yet, by timely assistance, recovered. Many, again, attribute humid and cold air to be the cause of these singular convulsions, joined with eating unripe, new, or unwholesome corn ; amongst

“ In autumno tunc morbus hic convulsivus erat epidemius
 “ in Gravenhausen, ubi quinque homines mortui sunt terribil
 “ genera mortis, nam a motu convulsivo caput ad latus aut
 “ retrorsum trahente & diu durante, livescebant & suffoca-
 “ bantur. Lenzkirch, Grunwald, in Capell, ubi 150 hoc
 “ malo afflitti numerabantur.” Wepferus.

Grana hujus corrupti fecalis venenato sali subtili caustico, sulphuri ejus viscofo inhærenti, deberi videntur, quod peculiariter plane ratione in nervosas partes gravatur fævitiamque suam exerceat. Hoffman.

Brunner has observed gangrenes to have happened.

Muller has written a dissertation which is amongst the *Disputationes practic. Halleri.*

which

which is too great an abundance of *lalium temulentum*. Others think scurvy, gout, a vitiated fancy, worms, an acrimony of lymph, faburra of the intestines, or violent percussion, to be the causes. It is produced in autumn, in the harvest time, or soon after; in spring it is mitigated, and in summer entirely ceases.

By accurate observation it has been discovered,

1. That wherever that convulsive twitching disorder has prevailed, the inhabitants all said that the *rubigo* had been in the grain.
2. That those who used old wholesome grain in their bread were never troubled with that disease; but those alone who were obliged, for want of better, to use the new grain, were attacked immediately after the harvest was reaped, if they had employed that musty grain in their diet.
3. The rich, and all who could afford good aliment, escaped the ravages of the disease; but the poor, and all those who chiefly subsisted upon bad bread, suffered principally at such time.
4. When the harvest had been got in, the disease made its appearance in the shape of an acute sickness, and afterwards mitigated into a chronic disease, with milder symptoms.

5. It

5. It was observed that the gravid swine mis-carried by being fed on that spoiled grain; and those corrupt and dusty grains put in milk killed the flies.

6. A man, out of pure curiosity, chewed some of those corrupt grains, which produced pains in his limbs, of which he could not get cured but by several dejections.

7. The bread and flour of the rusty corn has a disagreeable flavor and taste, turns the stomach, so that nobody would eat it, except poor people out of necessity, and for want of better.

The history of the disease, the times of its attack, and total cessation, clearly prove that these convulsions arise from the effects of unripe, vitiated, or new corn, producing mephitic air, or acrimony, and acting with sufficient energy on the stomach and intestines to produce, by the sympathy and irritability of the *par vagum*, intercostal, and other nerves, all the effects observed *.

The

* Not alone the corn, wheat, rye, &c., are affected by the *rubigo* or mildew, but other plants and trees also, as Ramazzini, an Italian physician, witnesseth, in these following words :

“ Non solum cereales opes absunt hæc pestis, sed omne etiam
“ subsidium, quod pomifer autumnus solet suggestere, suscitavit:
and adds farther, “ Uvarum quoque prouentus ob eandem cau-
“ sam

The unripe or vitiated corn, eaten amongst the poor of those countries where there is a scarcity of meat, produces a corrupted, flatulent, and acrimonious digestion ; mephitic air, &c., vexillating the nervous parts of the stomach.

The vitiated food digested in the stomach passing to the duodenum, produces air and a vitiated chyle.

A sharp acrimonious chyle, with vitiated air, enters the lacteal vessels, and conveys the morbid effects to the blood.

“ Jam non nisi parcissimus prævidebatur.” In another place he says, “ *Rubigo pessimus omnium frugum morbus est paulatim augefcens, frumenta & omnia leguminia, sed præsertim fabas occupavit, neque folum in locis humidioribus ubi compunctioner truerant, sed & in editioribus.*”

But there are other contrary observations, that the *rubigo* has not affected other plants or trees, so as to cause any insalubrity on their products.

When the *rubigo* has attacked the corn, the season has been observed always wet, at the time when the grain was forming, after the falling of the blossom ; the spoiled grain was mortified, lost its vegetative power, and, by the consequent putridity, turned the contained vegetal earth into a noxious, unwholesome powder, which, when made into bread, and used as an aliment, worked as a caustic poison in the body of those who eat such bread. It has been observed, that those who used good wholesome bread were free from that disease.

The blood, being rendered acrimonious, acts as stimuli on the medullary and vascular parts of nerves, and by sympathy irritates the whole nervous system, acting partially or generally on muscular parts, &c.

Independent of the morbific changes produced in the blood circulating through the whole arterial, venal system, or changes in the lymph circulating in the lymphatics, the force of sharp or putrid-tending stimuli on the stomach and intestines is sufficient to produce all the effects observable in the *convulsio cerealis*. By analogy this is proved; for wind, worms, acrid remedies, or poisons acting on the stomach or intestines, without proving fatal, throw various parts, or the whole body into strong convulsions.

The cure of this disorder requires,

1. An abstinence from the vitiated corn.
2. The removal of the irritating causes in the stomach and intestinal canal.
3. The appeasing the convulsive or spasmodic symptoms.
4. The invigorating the habit, so as to prevent or resist the putrid-tending disposition of the fluids or moist cold air.

As, in general, the disease has a putrid tendency,

dency, which proves that the blood is contaminated; bleeding, except in great plethora, robustness, youth, and floridity, should be avoided.

The stomach and intestines should be thoroughly emptied, both by cathartics and clysters, on the first appearance of the disease; afterwards, if there be the least tendency to a putrefactive disposition, purging violently would be injurious, if not dangerous. From the violence and rapidity of the disease, the first efforts of medicine should be directed to remove the irritating causes in the stomach and intestines; but it should be recollect'd the poor people who suffer are not very robust from the poverty and impurity of their food. Stomachs accustomed to a vegetable or farinaceous diet in swampy, moist situations, seldom bear, without injury, drastic purgatives; yet they should be sufficiently powerful to cleanse the intestines thoroughly.

No. 96. Rx. Calomel. ppt. gr. vj.

Extract. cathart. 3ss. M. f. pilulæ No. vj.
quarum capiat j. secunda vel tertia quaque
hora, donec alvus bene respondeat, super-
bibendo coch. ij. misturæ sequentis.

No. 97. Rx. Infus. sen. 3ivss.

Crem. tart. 3iss.

Tinct. sen. 3iss. M. f. mistura.

No. 98. Rx. Aq. pur. tepid. 3vjfs.
 Sal. amar. cathart. 3fs.
 Ol. olivar. 3j.
 Tinct. sacr. 3fs. M. f. enema, pro re nata
 injiciendum.

For the debilitated, females, or children, less powerful cathartics are necessary. Infusions of sena and tremor tartar, electuarium lenitivum and tremor tartar, lac sulphuris and magnesia, rhubarb and tremor tartar, manna and oil, oleum Ricini, &c., may be administered; but it should be observed that the intestinal canal is to be, at all events, effectually deterged.

If the irritating air, extracted from the farinaceous substances, should inflate the stomach or intestines, occasioning spasms, pains, hiccups, or eructations, it should be corrected or neutralised by volatile alkali, with vinous spirits and some medicated water.

No. 99. Rx. Sp. volat. ammoniac. 3jfs.

— lavend. c. 3fs.

Aq. menth. vulg. simp. 3vfs. M. f. mistura,
 de qua capiat coch. ij. tertia vel quarta
 quaq. horâ.

Or,

No. 100. Rx. Sp. lavend. c. 3jfs.

— volat. ammon. 3fs. M. cuius capiat 3ij.
 secunda, tertia vel quarta quaque horâ in
 coch. iij. infus. zingiberis.

If it may be deemed necessary to keep the intestines lax, infusion of senna and spirituous tincture of rhubarb may answer the purpose better than purgative salts, which last are certainly improper in disorders that have a putrid tendency.

The foregoing plans having deterged the intestines, or corrected the irritating causes, the allaying the convulsive twitchings or involuntary motions, if they continue, becomes the next object.

Nitre and *camphor*, in feverish inflammatory cases, are excellent; but nitre would be improper in putrid-tending symptoms, or in debility: camphor in large doses is proper in all cases of convulsion.

Fetid medicines, with those that excite perspiration, are the most effectual for this purpose.

No. 101. Rx. Gum. assafœtid. 3ij. solve in
Julep. e camphor. 3vij.

Tart. emet. gr. j. solve et f. mistura, cuius
sumat. coch. ij. tertia quaque horâ.

Solutions of myrrh, sagapenum, olibanum, &c., instead of assafœtida, may be used according to circumstances and constitutions; but their antispasmodic effects should be directed by antimony as much as possible to the surface of the body, in order to excite perspiration.

1. The irritating air, extricated from the impure farinaceous substances in digestion, enters the lacteals with a sharp impure chyle.
2. The vitiated air and chyle mix with the blood.
3. The injurious air, by its elasticity and forcible action, discharged from the minutest mouths of arteries, enters and expands, and irritates the minutest cavernous cavities of the *tela cellulosa*, similar to the emphysema from putrefactive or other causes.
4. The *tela cellulosa* is interspersed not only amongst the interstices of muscles, but even between the most minute muscular fibres, as far as the eye or microscope can carry their examinations.
5. A vapor or moist air is always exhaling from the mouths of arteries into the most minute cellular cavities of the *tela cellulosa*, to moisten the parts and render muscular action and attrition imperceptible to the senses, except in disease.
6. This air or vapor becoming mephitic or acrid, presses and irritates, like artificial stimuli, the muscular fibres destined to voluntary action, and causes convulsions, pains, &c., by affecting the nervous system.
7. The evacuation of this air, without weakening

kening the habit, is most likely to be affected by generating and continuing perspiration.

In perspiration a moist air or vapor exhales; when this air or vapor is vitiated, acrid, or corrupt in the *tela cellulosa* of muscles, what can be more rational than to promote its expulsion? therefore James's powder, tartarum emeticum, or any antimonial preparation, in small doses, joined with antispasmodics, as camphor, &c., are most effectual cause-removing remedies, as far as perspiration can promote those salutary purposes.

Diuretics, as the sp. nitri dulcis, sal. diureticus, may be proper; the former may be united with every thing the patient drinks.

Oily frictions, recommended by the German and Swiss writers, are objectionable; for they would prevent, in a great measure, the expulsion of the morbid irritating vapors through the external pores.

If there be delirium, stupor, atonia, debility, and a low pulse, or other symptoms requiring stimulants, blisters may be applied to the arms, legs, and back. How far blisters have been useful in evacuating serum has not yet been determined: but as the *tela cellulosa* of muscles communicates all through the body, an evacuation from continual blisters, in cases

most approaching to insensibility or torpidity, seems a very rational practice.

The appeasing the violent, acute muscular distractions having been effected, by emptying the intestinal canal, and evacuating the irritating acrid fluids vellicating the muscular fibres, by perspiration and diuretics, the next indication, according to the symptoms of the disease, is to resist the putrefactive tendency of the viscera or fluids.

For these purposes, antiseptic laxatives of senna and tamarinds, tremor tartar and rhubarb, with more active purges occasionally to prevent the lodgment of any putrid-tending particles of matter in the stomach or intestines ; for their absorption by the lacteals may easily contaminate and spread their baneful influence to all the fluids of the body. Thus the effects of the disease may become a fresh cause, producing more dangerous consequences than the original convulsions. This frequently happens to children in mesenteric fevers, and can only be cured by thoroughly and repeatedly evacuating the stomach and intestines of any slime or other pernicious particles *.

The

* Children's fevers are most frequently excited and protracted by the absorption of pernicious particles from their *farinaceous* food, or by glandular mesenteric obstruction preventing

The bark, camphor, myrrh, sagapenum, olibanum, valerian, and snakeroot, the vitriolic acids, or any other approved antiseptic and antispasmodic, conjointly prescribed, are the most effectual modes of correcting or preventing the putrid-tending disposition of this extraordinary convulsed disease.

Though the disorder itself is certainly not contagious, yet when the air is moist, and putridity exhales from putrefactive vegetables or diseases, putrid low fevers may not only be generated, but likewise communicated.

Thus this convulsed affection may have been considered infectious, when it was only accidentally united with putrid-tending diseases, in seasons of the year, and in low moist places, where they most commonly predominate.

This *convulsio cerealis*, though not common in this country, where the poor have wholesome bread, and greater plenty of animal food than perhaps in any other; yet it may be of great consequence in diet to have the purest corn, and to have all that is foreign accurately examined, lest with the grain direful diseases may be imported.

venting the conveyance of a healthful chyle: this many of my dissections indisputably prove. See *Treatise on Diseases of Children.*

To

To enforce a due observation in the selecting and cleaning corn for the purposes of life, belongs more to the Legislature than physicians.

St. Vitus's Dance.

This disorder sometimes affects young females, and is differently described by authors. The muscles of the limbs are distorted, and thrown involuntarily into various gyrated or circular directions : the muscles of the face or eyes are convulsed, and the countenance generally conveys evident marks of bodily indisposition.

The *immediate causes* are, an involuntary contraction or convulsion of particular muscles exciting irregular motion.

The *remote causes* are, nervous affections, or irritation from acrimony, efforts to menstruate, or difficult irregular menses, worms, plethora, inanition, &c.

The *cure* must be accommodated to the causes ; cathartics, aloetics, mercurials, mineral alteratives, bark, steel, cold bath, air, exercise, frictions, &c., and a dry diet, are, under different circumstances, useful.

The general remedies are, cortex Peruvianus, pilula Rusi, and small doses of calomel ; \AA -thiops mineral, Plummer's pill, cinnabar and valerian root powdered, camphor, assafoetida, oleum

oleum cajaput, cardamine, *flores zinci*; chalybeates, as *rubigo ferri preparata*, *tinctura florum martialium*, *sal. martis*, &c.; anthelmintics; cold bath, and proper diet, aloetic evacuants with cremor tartar, frequently expedite the cure.

Epilepsy.

The epilepsy has been so copiously treated, under the *passio hysterica epileptica*, that little more on the subject is necessary.

In the epilepsy, the patient suddenly loses the power of commanding the muscles, falls prostrate, and is convulsed, with a loss of the senses.

The disorder is hereditary, symptomatic, idiopathic, or accidental.

The causes and prognostics are the same as convulsions in general, and the treatment requires similar remedies.

An hereditary epilepsy, or if it happen to adults, is frequently incurable, without the exactest *dry regimen* and proper remedies. After a person has once labored under the disorder, on affections of the mind, suppressed evacuations, colds, &c., it frequently returns.

The exciting causes are infinite in solids and fluids, from various stimuli acting on several parts.

In

In the solids occur frequently lesions of the brain, tumors, compressions, stones in the kidneys, gall bladder, urine bladder, or irritations of the uterus, &c.

In the fluids, plethora, cachochymia, purulent or eruptive acrimony, venereal virus, acrid or viscid lymph, extravasations and stagnations in the brain, hydrocephalus, &c.

Amongst the other causes occur, *achores*, *tinea*, small-pox, suppressed diarrhoea, quicksilver found in the brain, worms, crudities, wind, &c., in the stomach and intestines, cholics, green excrements, &c.

Besides these, acrid aliments, draistic medicaments, poisons, too great an evacuation of blood, *venus immodica*, &c.; profound meditations, pains, commotions of the mind, drunkenness, sudden frights and surprises from terrifying unexpected sounds, dreadful thunder, noise of fire-arms, insolation, fasting, acrid exhalations or vapors; dread from nurses ignorantly tossing infants with vehemence, or the anger of a wet nurse, has caused epileptic fits to the child; pregnancy, suddenly chilling the body when heated, &c.

The *cure* comprehends the treatment during the paroxysm and intervals of the fits.

In the fit great care should be taken lest the head be injured by contusions against the floor; the

the arms and legs should be prevented from contortions, being firmly held by the assistants in a gently extended position ; the hands should be retained open, and, if possible, the mouth should be prevented from firmly closing by a small handkerchief or a moderate-sized pack-thread placed between the teeth, the *dentes molares*, in particular : by these means the tongue cannot receive injury, which has sometimes been bitten quite through by the increased involuntary power of the temporal, digastricus, &c., muscles.

A soft bed is the best situation for any person while in the epileptic fit, and the head should be elevated, for the violent convulsions are less likely to injure or contuse the body than when on the floor, &c. *

During

* A very extraordinary case of the epilepsy happened while I practised surgery in 1769.

Mr. R., picture-frame maker in Holborn, near Red-lion Street, had been many years subject to epileptic fits. He had taken various remedies under the direction of the most celebrated physicians, but the disorder baffled every attempt of cure.

The patient, despairing of relief from regular practitioners, was recommended to a famous advertising empiric, who, without hesitation, undertook the cure, with the most solemn assurances of success. Some remedy was given three times a day, a tea-spoonful of drops in water. I was attending Mrs. R., at the time, in some complaint, and had curiosity

During the paroxysm or fit in plethoric habits bleeding may be prescribed; but in the pallid,

to look at the silver spoon, which was turned black and corroded; from which I concluded some sharp acid or caustic preparation was given. The empiric never left the bottle; therefore it was impossible to analyse the medicine.

After this remedy had been taken a considerable time, I was called, with the most earnest solicitude, to visit the patient, who, the messenger informed me, had broke his thigh in bed.

On examining the thigh, I found the *os femoris* obliquely fractured, and the sharp points of the bone, about four inches below the *trochanter major*, pointed outwardly, through the *fascia lata*, *adeps*, and skin.

Upon the closest inquiry of all the family present, no doubt remained, if their account might be credited, of the thigh bone having been thus broke by the force of the convulsed muscles, although the patient was kept firm in a soft bed by strong assistants, who had attended on many prior fits, and therefore accustomed to the business.

One of the assistants present to assist the reduction of the fracture was Dr. Huber, of Great Wild Street, whom I had known, in 1764, when he attended at Guy's Hospital; the other assistant was Mr. W. Duff, one of my pupils in midwifery and anatomy at the time I gave lectures, who is now a surgeon in His Majesty's service.

This singular case required reflection: there seemed three circumstances requisite to be particularly attended.

1. To reduce the fracture.

2. To retain the limb and body so firmly after the fracture was reduced, as to secure it against the violence of future convulsions,

3. To

pallid, debilitated, or patients superabounding with serum, this operation should be avoided.

Fetid

3. To diminish or prevent the force of the fits themselves while the *callus* was forming.

The reduction of the fracture was accomplished in the usual manner, by extension, and bringing the ends of the fractured part in opposition: on which the usual bandage was placed, leaving an opening to dress the contused wound.

The retention of the limb against the force of future convulsions was effected by an apparatus of my own invention for this singular case: it consisted of long, narrow laths, about a quarter of an inch thick, and three quarters of an inch broad, smoothly plained, and rounded at the edges, to prevent uneasy or sharp compression. Three laths were placed on the inside of the thigh, from near the *inguin* to beyond the sole of the foot; three longer laths were likewise placed on the outside of the thigh: they reached above the upper margin or spine of the *ilium*, and extended beyond the bottom of the foot. The laths were all secured together at equal distances, above and below, by means of a broad tape, and on the parts wherever compression or friction were likely to be considerable, compresses of soft tow, covered with fine linen, were placed under the laths. The leg, thigh, and foot, were thus secured. Strong napkins were placed round the body, across the superior part of the chest, under the arms, in the direction of each axilla, and secured to the upper post of the bed: another was secured to the wood work at the middle of the bed, running across the inferior part of the abdomen: a third encompassed both feet near the ankles, and was firmly attached to the foot post of the bedstead. These ligatures were thus placed and fastened to prevent, if possible, the convulsions from disuniting the bones, retarding the generation of the *callus*, or breaking the *callus* recently formed.

In

Fetid remedies, as assafoetida, sagapenum, volatiles, &c., for the pallid; camphor, valerian,

In order to diminish the force of the fits while the *callus* was forming, the patient was bled, abstinence from liquids was ordered, and the cool, antiphlogistic regimen prescribed, with mild antispasmodics of camphor, valerian, gentle diaphoretics, &c.

In a few days the convulsions returned, and the new-formed *callus*, notwithstanding the methods adopted, was injured, though not in a very great degree.

In about three or four months after this extraordinary accident the bones had re-united; the patient was able to walk with the assistance of a stick and crutch; the fractured leg being a little shortened, a high-heeled shoe was directed to supply the defect.

Some few months after I visited the patient, who seemed very cheerful; but in my presence, while drinking tea, was seized again with an epileptic fit, accompanied with very strong convulsions, in which the arms and legs were thrown into various contortions, jerked, extended, and contracted with uncommon violence and rapidity. The patient was seated in a large elbow child-bed chair, surrounded with soft cushions and pillows.

During the force of the fits, without the limbs touching any hard substance whatever, a sudden crack was heard; the convulsions ceased, and I presently perceived that the thigh bone of the other leg was broke, without any wound or protrusion of the fractured ends of the bone: in short, it was a complete simple fracture, about three inches below the *trochanter minor* of the *os femoris*.

I must confess I doubted the former relation of the other thigh bone having been fractured in bed by no other violence than

rian, cold water, and evacuations, are proper for the florid and plethoric. These must be conducted according to circumstances.

In the intervals of the fits, the plans of cure should be directed to prevent their return. These must ever vary according to causes, constitutions, seasons of the year, age, sexes, climate, modes of living, &c.

The cardamine, or ladies smock, orange leaves, and such like medicines, are frequently expe-

than convulsions; but being present at this latter scene, from the beginning to the accident of the fracture, I could no longer doubt the truth of the former extraordinary fact.

This second fracture was reduced and secured in a manner similar to the first; and though convulsions frequently happened during the time the callus was forming and obtaining its proper hardness, yet the cure was effected in three or four months; but this last leg was more crooked and shorter than the former. The patient remained a cripple, but could walk with the support of crutches; had, at different times, the convulsive fits, which were afterwards succeeded by a gradual loss of memory and a species of fatuity, until death closed the unhappy scene.

The most earnest solicitation was made to open the body after death; but this not being agreeable to the family, no opportunity was afforded of investigating the state of the brain, its appendages, the fractured parts, or muscles, which were the only probable means of discovering the true causes of such extraordinary effects.

rienced very insufficient, as may be easily conceived by reflecting on the appearances of the effects found in the brain by anatomical inquiries, &c., &c. A mountain cannot be moved by the force of a feather; nor the various causes of the epilepsy by many of the reputed specifics.

An extreme dry diet, evacuants of the mercurial and powerful kind, change of air, and altering the diet; the regulating the secretions and excretions; serenity of mind; antiphlogistics, tonics, mineral alteratives, blisters, fetsons, iissues, nitre, camphor, and saline purges; bark, steel, and vitriolic preparations, zinc, &c., &c., have all advantages in the cure of the epilepsy. The more judicious the application of these remedies are, so much with greater reason may success be expected.

Salivation has in some instances succeeded; in others failed: in short, there is no single curative plan adapted to the variety of causes and parts affected; therefore, causes being first investigated, medicine should be prescribed judiciously for their palliation or removal. It must, however, be confessed, that the disease is frequently incurable, even when the origin is well understood, and the most skilful prescriptions administered, under the guidance of rational medicine.

The

The *aura epileptica* is a most curious phenomenon of disease, in which an irritated, wounded, or lightly compressed nerve in the foot, hand, or wrist, will gradually throw the whole body into strong convulsions. The patient feels something ascending like an electric stream, in the direction of the nerve; or rather a kind of obtuse tingling or slight titillation; this gradually increases in force; the brain, its appendages, the medulla oblongata and spinalis, all become affected, and the whole body is thrown into the strongest convulsions. This is a convincing proof of action, re-action, consent of parts, and energy in the nervous system.

A scratch or puncture in the wrist, foot, or tendinous aponeuroses, have produced universal convulsions, locked jaw, tetanus, and even death, in hot climates; to all which I have administered the most esteemed remedies, but rarely with success.

Strong compresses in the direction of the nerve above the part affected with ligature, have prevented the paroxysm; dividing the nerves, if small and not interesting, nor belonging to more noble parts, or destroying their connection with the other nerves, is more eligible, but seldom practicable; as the morbid part is commonly amongst the tendons or ten-

dinous expansions of the hand, wrist, ankle, or foot*. The general remedies should be the same as in the other convulsive diseases.

Humid air, rain, thunder storms, &c., are hurtful to the epileptic; as likewise all rich, over-generous or acrid food. Light diet, dry air, moderate exercise, amusements, and cheerful company, are beneficial.

Spasmus cynicus, or *cynic spasm*.

The *spasmus cynicus*, or Sardonic grin, is a convulsive affection of the muscles of the face and lips on both sides, which involuntarily forces the muscles of those parts into a species of grinning distortion.

If one side only be affected, the disorder is nominated *tortura oris*.

When the masseter, buccinator, temporal, nasal, and labial muscles, are involuntarily excited to action, or contorted by contraction or relaxation, they form a species of malignant sneer.

It sometimes arises from eating hemlock; or

* I had a case of this nature under my care, from a scrophulous cause, lately, and ordered a dry diet, mineral alternatives, &c., by which the patient was so well for many months, that he was considered cured; but in this he was disappointed; for, on returning to his usual diet, and omitting the remedies, the symptoms returned equally violent.

other

other acrid poisons, or succeeds an apoplectic stroke.

I have observed, that the persons who are most affected with this disorder, in the latter part of life, are those who previously had a turn for satire and sneering.-

I remember accidentally meeting and conversing with M. *de Voltaire* at a famous statuary's in *Paris*, to whom this philosopher, wit, and satirist, had been sitting: his face always represented the sarcastic cynic grin, without disease; but it is easy to conceive that such a face, involuntarily convulsed, would naturally assume the muscular actions to which it had been long accustomed *.

The nerves, from which all these parts receive their branches, are *olfactorii*, *optici*, *nasales*, *linguales*, *acustici*, *recurrentes*, and by means of their ganglions and plexuses the whole system is agitated, which demonstrates how faltering of speech, deafness, loss of smelling,

* If I recollect right, the artist's name was M. *Pigall*: he had just finished a fine monument to the memory of *Maréchal de Saxe*, which is erected at *Strasbourg*, by order of the present French monarch; and, by the same sovereign's royal request, M. *de Voltaire* was fitting for a whole-length statue. I do not remember ever to have seen a person so meagre and emaciated, the subject for the chisel of a statuary, as M. *de Voltaire's*: his body was similar to a dried mummy.

or convulsed action of the *alæ* of the nose or lips happen, in conjunction with these muscular affections.

The cure, besides the general remedies, should be attempted by applications of cupping, blisters, liniments, whether spirituous, ætherial, volatile, stimulating, or anodyne, near to the nervous trunks, from whence these branches of the nerves originate. Common practices, however, more commonly apply medicaments to those inorbid parts, in which the effects of the disorder are most manifest; the absurdity of which must appear strikingly evident to every reflecting anatomist and physiologist.

Where relaxation on one side, and contraction on the other side of the face happen, after reflecting on the parts from whence the nerves descend to the contracted side, resolvents of common salt and warm water, solutions of camphor, by means of blanched almonds and water, *spiritus Mundereri*, weak solutions of *sal diureticus*, fossile or fixed alkaline salts, or oleaginous volatile liniment, with camphor or opium, should be frequently applied, exclusive of cupping, leeches, or blistering, if thought necessary, to relax the contraction; to nervine liniments, *oleum succini*, or *ol. terebenth. ætherial.*, may be added. *Linimentum saponaceum*, or volatile alkaline spirits diluted with water, strong frictions,

frictions, partial cold bathing, &c., are proper, and sometimes, by perseverance, successfully remove the complaints *.

In this disease, when arising from eating the *cicuta* or hemlock, or other poisons, an active vomit is first necessary; then plenty of warm milk, or oil and warm water, are beneficial. There occurred a melancholy instance of a young gentleman of fortune, to whom hemlock had been prescribed: the extract was taken in such increased doses, that it proved fatal. The particulars of this case will hereafter be published, as a caution to the favorers of this dangerous drug. Hemlock has failed in numerous instances in the cancer and other diseases. It has been extolled and recommended, more through the obsequious conduct of the adulators of the Vienna-court physicians, than from any conviction or testimonies of its efficacy †. Upon similar principles, and the want of due reflection, have many other poisons,

* "Ex cicutæ esu quoque contigisse certum est," says a learned author. "In similibus vero & vomitus & cardial-giam cum mentis alienatione excitat, & nisi prompte suppeticæ ferantur, mortem inducit. Venenum hoc quam promptissime vomitu rejiciendum, dein lae tepidum copiose hauriendum, oleosa demum non omittenda."

† I have seen between two and three thousand cases of the cancer treated with hemlock, by different practitioners, with-

sions, as the *digitalis*, *solanum*, preparations of lead, arsenic, and all sorts of poisons, &c., &c., been lately introduced, not without fatal effects, in disorders where safe and successful methods of cure were already established. Though most powerful medicines, in too great quantities, may poison or destroy, yet those of which the doses are known, and their efficacy experienced, should be preferred to dangerous novelties, especially poisons of the acrid species, wherein the greatest caution and circumspection should always be observed.

Sternutatio, or sneezing.

Sneezing is a convulsive motion of the abdominal and other muscles of respiration and diaphragm, from some irritation of the olfactory and phrenic nerves ; when it is violent, it may be classed amongst the convulsive diseases.

In the action of sneezing, the mouth, thorax, or chest, are dilated, and a larger column

out success ; and I can positively affirm, from my own and the experience of most of the candid surgeons and physicians through Europe, that this drug never cured a true cancerous ulcer. Upon examination, many cases have been nominated cancers by persons who could not give the true definition or description of a cancer. See my *Remarks on cancerous Diseases*. When I was at Vienna in 1785, I saw, at the grand hospital, above fifty pounds of the extract of hemlock intended for internal use.

of

of air is received into the lungs than usual; then a violent spasmodic contraction of the muscles follows, with an anxious compression in the region of the heart, and the air received is expelled through the nostrils with great noise and force.

If sneezing be moderate, it is in many instances useful; for it augments the motion of the blood, sharpens the senses, recovers lost or diminished smelling from inspissated mucus; it, likewise, assists in labors, and expulsion of the secundines.

When, however, sneezing is violent in plethoric bodies, and often repeated, it has produced many evils; as head-achs, blindness, a rupture of the vessels of the brain or meninges, and sudden death*. Ruptures of the pulmonary vessels likewise have happened; pulmonic hæmorrhage has been the consequence. It has been the cause of abortions in pregnancy, and has by its violence produced

* Hildanus and Lancisius give instances of blindness, and even death, being the consequence of violent sneezing.—
“ Quod sane a Famiano Strada, exemplo pistoris suburbani
“ confirmatur, qui cum ter ac vicies sternuisset, in vigesimo
“ quarto sternutamento, animam effavit.”

“ Cucumeris asinini succo, rustici utentes ad iæterum cu-
“ randum, sternutant ad mortem hæmorrhagia excitata.” Re-
ferente Sauvagio.

hernias, or a descent of the intestine or omentum into the inguen, or vaginal sac of the scrotum.

It is excited by errhines; the juice of wild cucumber, which rustics use for the cure of the jaundice, has occasioned sneezing to such a degree, as to end fatally by hæmorrhage. From worms in the frontal sinuses, or in *primis viis*, sneezing may happen by consent of parts: it is common to the nervous, irritable, and hysterical.

The measles and other eruptive fevers are preceded by sneezing; it is frequent in the catarrh; was formerly accounted epidemic, and by some of the ancients the messenger of death; from hence the prayer or benediction so common amongst many nations on perceiving sternutation*.

In the time of Pope Gregory, the sneezing disease destroyed numbers suddenly. The disorder now known by the denomination of the *influenza*, is of this species. The *membrana pituitaria* is inflamed and irritated from acrid particles in the air; violent sneezing is excited; the membrane being continued all through the bronchial structure and air vesicles of the lungs,

* Petronius Arbiter ait: *Gyton collectione spiritus plenus ter continuo ita sternutavit, ut grabatum concuteret, ad quem Eumolpus conversus, salvare Gytona jubet.*

accounts for the pulmonic inflammation accompanying sometimes the *influenza*. Violent peripneumony, pleurisy, abscess of the lungs, and *hæmoptysis*, have been the consequence *.

Sneezing is considered critical in some acute diseases, and often precedes a salutary nasal hæmorrhage, particularly to the plethoric.—
“Quando jam ad sanitatem venit corpus, sternutum etiam inter bona indicia.” Celsus.

According to Hippocrates, sternutation solves the singultus or hiccup. It is considered salutary to the paralytic; but injurious, if violent, in pulmonic affections of the inflammatory class. In ulcers, polypus, cancer of the nose, in inflammation or other diseases of the part, the force of sneezing augments the symptoms; therefore it should be restrained.

The cure must be adapted to the causes: sneezing is impeded by pressing with the fingers, the root of the nose, or covering them on the internal canthus of the eye; by aqueous

* In the last *influenza*, which raged a few years ago, two very remarkable instances of pulmonic inflammation and abscess happened, amongst others of a similar, though less violent, nature. They were both patients of Mr. Hogarth's, Swallow Street, by whom I was consulted. Copious bleedings, antimonial diaphoreties, with nitrum and pectoral remedies, cured both these cases. Where the *influenza* was less violent, elix. paregoric., acet. scillit. bleeding, inhalations, pediluvia, diaphoreties of spirit. Minder. &c., according to circumstances, were beneficial.

vapor, or warm milk attracted up the nostrils, it is mitigated. In the plethoric, venæction is proper; pediluvia, blisters to the neck or back, with antiphlogistic remedies and regimen. If periodical, bark is efficacious; if from worms, anthelmintics; if spasmodical, fumes of camphor, valerian, or assafœtida; and in some cases opium is useful.

Palpitation, tremor, and angor of the heart.

The tremor, angor, or palpitation of the heart, only differ in degrees of violence; therefore they may be included under the general name of palpitation.

The palpitation of the heart is an inordinate motion of that organ. The action is so strong as to be perceived, by placing the hand on the outside, and the pulsations are so sensibly felt, that the heart seems as if extruding from its cavity.

The palpitation of the heart is attended with an unequal intermitting pulse, anxiety, tremor of the extremities, pallor, difficulty of breathing, deep inspiration, weight and oppression of the præcordia, a fixed pain under the sternum, and, according to the greater or less degree of disease, so is its duration or violence.

The *immediate cause* is increased irritability of
the

the cardiac nerves exciting the heart to augmented action.

The *remote causes** are numerous, both external and internal: in the heart itself and vessels;

* DISSECTIONS AFTER DEATH.

Symptomata morborum.

Cordis palpitatio: cum angustia praecordiorum, spiritu difficulti, animi deliquiis frequentibus, pulsu intermittente,

& tandem hydrope.

— — Cum dolore in latere sinistro & postico pectoris, febre, anxietatibus, &c.

— — Cum dyspnœa, interdum sedatur rejectione sanguinis per os, sed denuo rerudescens, lypothymias lethales sibi adjungit.

— — Quolibet motu foveatur & sudores frigidi ubertim profluunt.

Palpitationibus quidam obnoxius de repente moritur.

— — Cum lypothymis frequentibus & atrophia subsequenti.

— — Doloribus pectoris & abdominis stipatur, lypothymias sibi accersit, & morte subitanea cessat.

— — Interdum recurrit

Extispicia cadaverum:

Hepar volumine nativo solito majus, pancreas induratum, cor pericardio destitutum.

Pulmones putridi, & aneurisma aortæ.

Cor sanguine concreto infarctum, volumine ingenti praeditum.

Cor maximum, valvulae ejus ossæ.

Cor ingens, infarctum sanguine.

Tumor in pericardio, materiam purulentam recondens.

Tumore aneurismatico dilatata arteria aorta.

Cor sanguine polyposo incum

fels; in other viscera extraposited from the thorax; in the blood, and other humors; in digestible or indigestible foods; affections of the mind; excretions and retentions, &c.

To

<i>Symptomata morborum.</i>	<i>Extispicia cadaverum.</i>
cum spirandi summa difficultate.	farctum, aorta ossca.
' <i>Cordis palpitatio</i> : Cum spirandi difficultate, tussi, & spu- to cruento.	Cor sanguine concreto tur- gidum.
— — Dolores capitis & abdominis concomitatur in gravida muliere, & dein post partum sibi adscribit dolorem lateris sinistri cum ventris in- tumescentia, lypothynia & spirandi difficultate.	Quantitas maxima humoris subflavi inter laminas perito- nai.
— — Cum difficiili spiritu.	Mesenterium scirrhosum & aqua in pericardio.
— — Cum doloribus in si- nistra thoracis parte & spiran- di difficultate.	Ancurisma pectoris.
— — Juvenem subito ex- tinguit.	Pericardio cor accretum, valvulæ lapideæ.
— — Cum spiritu difficiili, nauscis saepe accedentibus.	Lapides in thalamis cordis.
— — Cum scnsu erosionis in thorace & dysphagia.	Hepar durum & aqua in ventriculo.
— — Cum syncope fre- quenter recurrente.	Sanguis concretus in corde, pro verme habetur.
— — Melancholicum hæ- morrhagiæ narium obnoxium,	Lien & hepar ingentia. Si- nister pulmonum lobus instar &

To the heart and contents of the thorax appertain, an increase of its volume or size, polypus, aneurism of the aorta, or its ossification, a collection of fluid in the pericardium, abscess, empyema,

Syntomatata morborum.

& difficultate spirandi laborantem cruciat.

Cordis palpitatio: Cum sensu aquæ in thorace, absque siti.

Pulsu molli, respiratione frequente, oculis concavis.

— — Ægrum palpitationibus cordis infestatum, mors subitanea tollit.

— — Interdum recurrit, sed tandem continua evadit.

— — Spiritum difficilem trahit.

— — Cum dolore pectoris & dysphagia: quibus se jungit vomitus continuus.

— — Extra sedem costam protrudit, & asphyxiam ercat.

— — Cum tussi concomitantur dolorem continuum capitis ad scapulam usque protensum.

— — Subito lethalis de medio tollit lethargicum.

— — Cum spiritu difficultate & abdominis extremitatum-que œdematia.

Extispicia cadaverum.

hepatis, densus & tibi squa-lens.

Aqua in thoracis cavo & pericardio.

Cor sanguine concreto dif-tentum, valvulae osseæ.

Cor sanguine repletum.

Pericardium aqua turget.

Tumor steatomatosus œso-phagum comprimit.

Venæ pulmonis cartilagi-neam referunt substantiam.

Pericardium purulentum, hepar scirrhosum, lien obstruc-tus & pectus sero lymphatico turgens.

Aqua & sanguis in ventri-culis cerebri, cor & vena cava dilatata.

Aqua in pericardio, cor di-latatum.

empyema, calcareous concretions, worms, small ossifications in the substance of the heart, scirrhosities and tumors of the lungs.

The

Symptomata morborum.

Cordis palpitatio: Costas carie exesas frangit.

— — Narium ob oriente hæmorrhagia, mitescunt palpitationes, sed denuo recrude scentes mortem accersunt.

— — Cum tussi & asthmate in tabeni degenerante.

— — Adstantium auditu distinguitur.

— — Cum spirandi difficultate, artuum oedematia, tussi & sputo purulento.

— — Cum animi commotionibus vehementioribus, quas excipit mors subitanea.

— — Cum hydrope.

— — Asthmaticus, de summo pondere in hypocondrio dextro queritur, dein colica & hypothyrias cruciatur.

— — Hypothyrias sibi ad jungit frequenter.

Extispicia cadaverum.

Auriculæ sanguine turgidæ, admodum dilatatae.

Pulmo putriditate affectus.

Pulmonum ulcus, concretiones in cordis thalamis, lien durus & intestina inflammata.

Cor dilatum & lapide scens.

Cor tumidum & sanguine atro infarctum.

Cor ingens, sanguine obrutum, & valvulae quasi lapi deæ.

Pancreas & mesenterium scirrhosa, latex in pectori, valvulae cordis ossæ & cor turgens sanguine.

Pulmones cum nonnullis hærentiis putriditate affecti; intestinum colon flatulentia distentum, diaphragma sursum pellens, hepatis putridum, & abscessus circa jecur.

Cor purulentia affectum.

Cordis

The lesions in the other viscera are capable of causing the palpitation of the heart. The stomach is frequently the cause; infarctions of the liver, or spleen; stones in the gall bladder; wind

*Symptomata morborum.**Cordis palpitatio:* Item.

— — Cum spirandi difficultate concomitatur febrem acutam pertinaci gonorrhœæ succedaneam.

— — Invadit leucophlegmatia laborantem, affectum soporosum accersit.

— — Periodica sonum edit ingentem, & summa spirandi difficultate stipatur.

— — Cum corporis totius intumescentia sese adjungit spirandi difficultati.

— — Cum anhelitu, anxiitate, tussi.

— — Cum spirandi difficultate, animi deliquiis & agrypnia & tandem morte subitanca.

— — Invadunt lypothymiae subito lethales,

*Item.**Extispicia cadaverum.*

Pericardium sero turgidum & cor sanguine distentum.

Abscessus in regione hypogastrica & in apice cordis.

Aqua inter laminas omenti stagnat, ventriculus cerebri & pericardium aquaturgent; pulmones undique pleuræ annectuntur.

Pulmones putriditate affecti & cor ingens.

Cor portentosum, valvulae offæ.

Cor illæsum, pulmones vix inflammati, lumbrici tres in intestino ileo.

Aneurisma pectoris.

Massam adiposam uterque cordis ventriculus fovet.

Cor tumidum unico thalamo conflari videtur.

wind in the stomach and intestines, or flatulency, particularly common to the hypochondriac during digestion, by the air rising up the œsophagus and distending that tube. In the brain itself,

Symptomata morborum.

Cordis palpitatio: Scabie defoedatum cruciat, & hydro-
pem sibi adjungit.

— — Hypochondriacum la-
cessunt, & in hydropem dege-
nerat.

— — Tandem syncopes le-
thiferæ asthmaticum molestant.

Palpitationes cordis & dein
syncopes, chloroticam inva-
dunt.

— — Cum pertinaci spi-
randi difficultate.

— — Cum pulsu inordi-
nato & perquam debili.

— — Cum anxietate &
spirandi difficultate.

— — Nulla.

— — Sese adjungit tumori
ventris.

— — Chloroticam inva-
dit, & lypothymiam lethalem
sibi adjungit,

— — Subito ingravescit &
plura gravissima symptomata
accersit.

— — Cum torminibus

Extispicia cadaverum.

Omnia viscera sana, excep-
to corde ulceroso.

Cor tumidum & sanguine
infarctum.

Arteria aorta sanguine con-
creto turget.

Cor distentum, & valvulae
osseæ, hepar induratum.

Aorta ossea.

Valvulae cordis osseæ & cor-
dilatatum.

Aquæ in pectori, valvulae
quasi osseæ.

Cor lapidescens ; pericar-
dium aqua turget.

Hydrops cysticus.

Cor ingens & sanguine ob-
rutum, valvulae osseæ.

Cor sanguine infarctum, ad
maximam molem protenditur.

Pancreas scirrhosum.

ventris;

itself, also, the cause of palpitation of the heart has been discovered.

To vitiated blood are to be referred plethora, cachochymia, various acrimonies, gout, scurvy,

Symptomata morborum.

ventris; ad quem accedit dyspnœa & brachii sideratio.

— — Cordis palpitationi obnoxia, erratica febre prehenditur. Urget denuo cordis palpitation & convulsiones sibi accersit.

— — Cum præcordiorum angustia, & spirandi difficultate, leucophlegmatiam sibi adjungit.

— — Post se trahit phthisin.

— — Hæmoptysin & syncope.

Palpitatio cordis succedanea.
Palpitationes cordis cum crux & pedum œdemate oriuntur post animi pathemata.

— — — Post citissimas equitationes fævit.

— — — Anginæ succedit.

— — — Post summum exercitium fæc adiungit spirandi difficultati.

Extispicia cadaverum.

Cordis substantia tactu flaccida sanguine distenta, mesenterium scirrhosum.

Aqua in abdomine, cor difforme, valvulae ejus ossæ.

Hepar ingens; cor portentosum; pectus & abdomen scorro turgent.

Cor sanguine distentum.

Cor dilatatum & sanguine infarctum.

Cor pericardio accretum.

Cor tumidum.

Cor sanguine coacervato distentum.

vy, &c. From strong coffee, or quantities of hot tea, leguminous foods, lentils, &c., according to *Senac. Malpighius*, whenever he eat leguminous foods, was tormented with the most

Symptomata morborum.

Pælpitatio cordis succedanea.

Animi. pathemata prehendit
cordis palpitatio, & sibi ad-
jungit spirandi difficultatem
cum artuum œdemate.

— — — Spirandi difficulta-
tem sequitur nulla accidente
cubandi difficultate.

— — — Auditu & visu
sensibilis, difficultate summa
spirandi stipata post contusio-
nem pectoris.

— — — Viget cum dys-
pnœa & summo dolore stomati-
chi, pulsu duro superstite post
pectoris inflammationem.

— — — Succedit vomiti-
oni cum pulsatione in fundo
ventriculi.

— — — Cordis palpita-
tiones succedunt lypothymiis.

— — — Cum pulsu vali-
diore post vehementiora ani-
mi pathemata; interea tumet
regio hypochondriaca; ingru-
unt convulsiones & urget sum-
ma spirandi difficultas & ex-
tremorum frigus intensissi-
mum.

Extispicia cadaverum.

*Cor sanguine polypoſo diſ-
tentum.*

*Aqua in pericardio flag-
nans.*

*Cor volumine majori, quam
par erat præditum.*

*Aqua pericardii laminas a
ſe invicem diducit.*

*Pancreas ſcirrhosum trede-
cim libras ponderans.*

*Cor dilatatum & lapide-
ſcens.*

*Cor ingens & merc diſten-
tum.*

vehement

vehement palpitations of the heart. From acid fruits the same has been experienced. Hemlock used instead of parsley, cold draughts when the body has been overheated, antimonial vapors, fumes of charcoal, arsenic, &c., putrid or fetid exhalations, long use of mercury, have all excited this inordinate action of the heart.

From commotion in the blood, and from every vehement motion of the body, particularly those actions that require increased inspiration, as running, jumping, when the lungs receive by the will a greater inflation in the air, and, in some instances, a longer retention in the respiratory organ. Suddenly changing the situation in bed, or *in venereis actu*, palpitations arise; from hard riding the palpitation has been so vehement, that the waistcoat has been elevated: the same effect has been produced by a tight compression, or bandage on the pectus*. From the heat of anger, and other emotions of the mind, a penury of blood from large hæ-

* The rolling of infants round the chest has been one of those absurd practices that no reasoning, nor examples of mischiefs arising, can eradicate. The superior ranks in this country avoid those bandages, the inferior not. In Italy I have observed the children rolled up, like mummies, in swaddling clothes, by which the free functions of the chest are impeded, and the foundation of a narrow chest and pulmonary complaints laid.

morrhage after wounds, lying-in, from suppressed evacuations of blood, from menstruation in the chlorotic, are seen palpitations.

If the disorder be chronic, it is scarcely curable ; if idiopathic, or transitory, it is sometimes removed ; if complicated with other morbid affections of the viscera, &c., which is most common to those who are afflicted with the complaint, they cannot live many years, but commonly die suddenly, which several practical facts have clearly demonstrated. The palpitation is less dangerous when arising from passions of the mind, or any sharp acrimony, than when it originates in any real morbid state of the heart, its large vessels, or the lungs, &c. In some instances the palpitation of the heart is followed by pulmonic hæmorrhage, asthma, dropsy of the thorax, syncope, &c.

The *cure* is very doubtful, as must appear from the evident causes ; but it should be attempted on rational principles. Depletion and abstinence are necessary to the plethoric ; in inanition the cortex and tonics are proper. In a state of the blood, productive of polypi, alkaline salts, either fossile or vegetable, lixivious or saponaceous preparations, nitrous and other neutralised salts, are to be recommended ; as sal sodæ, sal tartari, sapo, nitre, sal Rochelle, &c., &c. ; bleedings and other evacuations long
continued :

continued : but all these are likely to fail, if the inspissation of the coagulable lymph, forming the polypi, arise from a gouty or chronic rheumatic state of the blood.

In the aneurism of the aorta, many cases of which I have seen, the disorder is incurable ; and the patient's life can only be prolonged by an extreme dry diet, dry air, evacuations of the alvine feces, urine, and perspiration *.

The difficulty of ascertaining the true causes of palpitation, in many instances, renders the strictest inquiry of the symptoms absolutely necessary, or the mischief may be too far advanced before it is clearly discovered ; of course remedies may be applied when they cannot become useful.

An increase in the size of the heart, fluid, or a dropsy within the pericardium, are irremediable ; but, as these happen, perhaps abstinence from fluids, in both instances, may be

* Great care should be taken, by young or inexperienced surgeons or physicians, not to mistake the aneurism of the aorta for an abscess, an instance of which I once saw, where the tumor had been poulticed, was opened by a lancet, and soon proved fatal. Another instance I was witness to, where a surgeon of considerable reputation poulticed an aneurism of the *subclavian artery*, and who was extremely angry on my informing him that he had mistaken the case, and hastened the patient's death, though this was told gently and from a tenderness of his reputation.

useful; in the former to diminish the force of the heart, in the latter to promote the possibility of a resorption of the extravasated fluid by the non-admission of a fresh supply. Chalybeates and tonics are likely to avail, as these effects are commonly owing to laxity after over-distention.

The ossification of the aorta, could it be ascertained, which is most common to very old age and gouty habits, abscesses of the heart, ossifications in its substance, calcareous concretions, scirrhosities and tumors in the lungs, ossifications of the valves of the heart, accretion of the heart with the pericardium, and other affections of the organ of circulation occasioning palpitation, which the dissections prove to have existed, are all, or mostly, of the incurable class; but medicine is justified in attempting to penetrate into these causes, and to afford the most rational remedies and diet for checking the progress of the disease, or prolonging life by judicious management, even when cures cannot be expected.

In scirrhosities of the abdominal viscera, as the liver, mesentery, spleen, pancreas, hydrops cellulosa, &c., though the cure is difficult, yet the danger is less: in such cases a mild mineral alterative course may be tried conjointly with the alkaline salts, &c.; or, in laxity, tonics of bark,

bark, steel, and small doses of calomel occasionally, particularly this last remedy, if the bile ducts are supposed to be obstructed.

In plethora, bleeding, evacuations, and abstinence, are useful; in vitiated blood, or perverted secretions or excretions, correctors of the prevailing acrimony and removers of obstruction are to be prescribed, whether scorbutic, scrophulous, rheumatic, gouty, venereal, cancerous. Any other discoverable cause should be treated according to circumstances.

If the palpitation arises from emotions of the mind acting on the heart, medicine should recommend serenity; which, however, is a prescription seldom followed by persons of exquisite sensibility.

Bile in the stomach or intestines is to be evacuated downward by mild doses of aloetics, or corrected by acids. If fixed air is the cause in the first process of digestion, as this is acid, magnesia, alkaline salts, or lime water, are useful. If the palpitation be intermittent, bark has cured it, according to Stork. In worm cases, anthelmintics; in affections of the nervous system, camphor, steel, &c.; in temporary spasmodic attacks, sometimes opium and carminatives remove the evil. Pediluvia, blisters, moderate exercise, and medicated waters, are all occasionally to be used. It may be observed,

served; however, the idiopathic palpitation of the heart rarely admits a radical cure: palliation of the symptom is commonly all that medicine can effect.

Hiccups.

A convulsive motion of the stomach and diaphragm, by which the latter descends, and the former ascends, and forces and expels the air with a singular clangor or acute sound through the œsophagus, is called singultus or hiccups. It is transitory, acute, chronic, or periodical.

The *transitory* hiccups arise from flatulency and other causes; from the food too suddenly swallowed; the inferior part of the lungs accidentally resting on the elevated diaphragm, according to Forestus; taking cold, particularly amongst infants; sudden cold applied to the feet, cheese curd, dry food, sudden grief and crying, hysterick affections, and the commencement of every menstruation, have all produced this symptom.

The *acute* hiccups arise from a metastasis, gout, rheumatism, poisons, an incarcerated hernia, the ileus, inflammation of the stomach, lesions of the brain; likewise, in acute diseases, aphtæ, dysentery, diarrhœa critica, improperly suppressed by opiates or astringents, wounds, distortion

distortion of the ribs, a depression of the cartilago ensiformis, a sudden depletion by a violent purging, &c.

The chronic hiccups are caused often by worms, which irritate the empty stomach, or arise from aurgency of bile, from reiterated abdominal viscera.

Singultus, or hiccup, from an internal cause, with vomiting, is frequently a bad omen, as in the ileus, gangrene, wound of the stomach or diaphragm, inflammation of the intestines, &c.

The transitory hiccups are frequently checked by a draught of cold water, by the narration of some story which engages the attention, by sudden fear, by surprise, by an inhibition of respiration. Sneezing, according to Hippocrates, solves the hiccups. If from aurgency of bile, a full stomach, hard drinking, or poisons, it is necessary to empty the stomach by promoting nausea and vomiting; and, immediately after the stomach is emptied, to prescribe gentle eccoprotics until the whole intestinal canal is cleared of redundancy*.

If worms be the cause of the hiccups, the remedies already recommended against worms
are

* The successful treatment of a gentleman, who had drank two ounces of extractum saturni Gouvardi, may be mentioned, being a very extraordinary case.

are proper; if *ab aphtis deciduis*, mucilaginous demulcents may be prescribed. In acute putrid diseases,

C A S E.

On Friday night, November 26, 1784, near twelve o'clock, Mr. H., a gentleman in Harley Street, Cavendish Square, drank, by accident, twelve drams of Goulard's extract of lead.

Mr. Tronson, apothecary in the same street, and myself, being presently called, an emetic was immediately ordered.

On being first introduced to the patient, the symptoms chiefly complained of were, a great roughness in the throat, the sweet taste of the lead in the mouth, and slight eructations from the stomach of a similar nature. The patient was extremely calm, intrepid, and spoke of his expected death, which he considered certain, with extraordinary courage.

There was no sensation of pain; but as these preparations destroy all nervous sensibility, it was rather an unfavorable circumstance.

The total destruction of the nervous powers and sudden death were to be expected from the known qualities of the lead*; therefore a quick determination and a rapid execution of whatever was to be attempted became necessary.

* I had seen a case, where a lady had taken, by the advice of an ignorant female Doctress, only ten drops of the above extract diluted: it produced torpidity in the abdomen, and coldness of the extremities, and proved fatal in twelve hours. The present gentleman had taken 720 drops of the undiluted extract. If ten drops diluted had proved fatal, what might naturally have been expected from 720 undiluted extract of lead?

diseases, musk, and a strong camphor emulsion made

The following were the principles on which the cure was attempted :

i. To remove, as much as possible, every idea of danger from the patient's mind, by assuring him of there being every hope of recovery : this greatly tended to diminish his apprehensions.

ii. To stimulate the rectum, and prepare the intestines for an evacuation of their contents ; for an incurable costiveness was most to be dreaded, should the lead not soon prove fatal.

The following enema was prescribed, to be repeated :

R. Decoct. com. pro clyster. 3vij.

Sal. Glauber. 3j.

Ol. olivar. 3ij. statim injiciendum.

iii. To prevent the adhesion of whatever particles of lead might remain in the stomach, and to lubricate the intestines with oil.

iv. To excite griping pains and an increased action of the intestines, in order to expel the poison, by a warm cathartic.

v. To prevent a palsy of the stomach and intestines, and preserve heat by volatiles, the following draught was prescribed :

R. Ol amygdal. dulc. 3vj.

Tinct. sen. 3ss.

Aq. menth. vulg. simp. 3j.

Sp. c. e. gtt. xxx. M. f. haustus saepe sumendus.

After the first three or four operations from the above prescriptions, the patient was left to the care of Mr. Tronson ; it being then between three and four o'clock in the morning : entertaining some hopes of success, as some feces had been evacuated ; without which, in all human probability, the case must have terminated unfortunately in a few hours.

made with blanched almonds, bark, mild an-
tiputrescent

At eight o'clock on Saturday morning, Nov. 27, finding the evacuation of the fœces not sufficiently copious, the following draught was prescribed, to be taken every half hour :

R. Ol. amygdal. dulc. 3vj.

Infus. sen. 3x.

Tinct. jalap. 5ij. Mucilag. gum. arab. 5ijs. M.
f. haustus.

By eleven the same morning this draught had operated five times; but, lest any ill consequences might happen from the lodgment of any particles of lead in the folds of the intestines, or *valvulae conniventes*, a repetition was directed. Some griping had intervened from the irritation of the purge, which plainly indicated a degree of sensibility in the intestines, and was a very favorable circumstance.

At two o'clock the same day Mr. John Hunter, Surgeon Extraordinary to His Majesty, attended; at which time the last-prescribed draughts had operated ten times: it was, however, thought advisable to continue the same draught every three or four hours, though it was concluded the patient was out of danger.

At ten in the evening of the same day the patient was visited again: he had eat some light food, and was in good spirits: the very dangerous situation he had been in was concealed from himself, and, in some measure, perhaps, contributed to our success.

The patient complained of slight gripings, which was an object of the utmost importance, as they were unaccompanied with costiveness: it clearly demonstrated the undiminished nervous sensibility of the stomach and intestines, and afforded the highest prospects of cure.

tiputrescent eccoprotics, &c.* In hysterick or hypochondriac affections, the hiccups commonly arise from fixed air in the stomach in the first process of digestion, or by the air that remains in the stomach after digestion; in both cases the experiments which I have made prove the acidity of this air vellicating the stomach and œsophagus; calcined magnesia, lime water, or volatile alkaline salts or spirits, in ginger tea, frequently, by neutralisation, and thus forming a neutral salt, remove the complaint, by proving gently laxative. Preventing constipation is another effectual remedy, and avoiding salads and other vegetables, or leguminous food, or malt liquors in a fermentative state.

If from gouty spasms, an aloetic draught,

On Sunday morning I met Mr. John Hunter again: we found the patient perfectly recovered, and made no appointment to repeat our consultation.

On Monday morning, the 29th of November, no farther medical attendance was necessary. The gentleman is now (June, 1788) in perfect health, and officiates as president at one of the most convivial musical meetings in London. This is mentioned, because it had been suggested the patient would die a lingering death.

* See the *Essay on the putrid, malignant, ulcerated Sore Throat*, lately published, where the reasons are given why antiseptic laxatives should be frequently prescribed to prevent or remove putrid accumulations in the intestines, or to oppose their dangerous contaminating absorption by the lacteals, &c.

and

and mixtures of *confectio cardiaca*, cordial waters, and volatile salts, are proper; but, above all, the pediluvium composed of *zij. spiritus salis marini fumans*, to three or four gallons of tepid water, as recommended in the treatise I wrote some years ago, called *The Gout alleviated, &c.* When the hiccups originate from cold air, the abdomen should be embrocated with camphorated spirits of wine, or flannel should be applied, being first moistened with a spirituous embrocation of volatile liniment, &c. If the hiccups are consequent to a wound, or distortion of the ribs, the dextrous assistance of a skilful surgeon will be necessary.

Oscitation, or yawning.

A very deep, slow, involuntary inspiration, with a large hiatus of the mouth, and a sonorous expiration, is called oscitation; or yawning. It is attended with or without pandiculation, or distention of the superior and inferior extremities. Amongst the healthful it occurs after much fatigue either of mind or body; in great cold, and a propensity to sleep, or on waking. It arises from idleness, or a tedious, uninteresting discourse, and by sympathy; on seeing oscitation, we naturally yawn; *tritum enim est, oscitante uno oscitat et alter.*

It argues a tardier motion of the blood through

through the lungs : its efforts are to accelerate the motion of the humors, and to liberate the body from a molesting weight, by producing an increased sensibility, which is consequent to oscillation. It does not portend mischief, nor does it require medicine, unless joined to lethargic symptoms.

It frequently happens to the hysterical and hypochondriac, and in the commencement of intermittents ; nor is it unusual to those whose stomachs are overloaded, or abound with crudities. In parturition, it is believed by some to nominate evil, and induce soporiferous symptoms ; but experience does not countenance this opinion.

On spasmi tonici, or tonic spasms.

Tonic spasms are rigidity of muscles, as the tetanus, catalepsis, trismus, or locked jaw, &c. The tonic spasm, therefore, agreeably to this description, differs from the clonic ; because, in the former, the parts are convulsed by the muscles alternately contracting and relaxing ; but, in the latter, after the first attack, the parts become rigid and immovable. If the descriptions of authors be examined, it will be found that the catalepsy and other disorders of this class are, in many instances, complicated, and in general

partake of those symptoms which constitute both clonic and tonic spasms *. These distinctions are of little consequence in the modes of curing these diseases; for both clonic and tonic spasms require, in many respects, a similar treatment, namely, the mitigation of the symptoms, and relaxation of the spasm or contraction by antispasmodics, pediluvia, diaphoretics, &c., during the paroxysm, and a removal of causes, if possible, in the intervals.

It may not be altogether useless, to give a few more observations and distinctions concerning clonic and tonic convulsions, or spasms.

The clonic convulsions have already been defined an alternate involuntary contraction and relaxation of muscles, the tonic are rigidity and immobility, as in the *spasmus physodes*, or cramp, which often affect the fingers, calves of the legs, neck, &c.

The alternate relaxation and contractions which are felt with the pulse, in *articulo mortis*, is called *subfultus tendinum*, and is a very dangerous symptom in acute diseases. When

* Observations Wepferi de affectibus capitis.

the internal and external senses are abolished, with violent, universal, alternate contraction and relaxation of muscles, it is called *epilepsia*; but if it happen but once, as in dentition, or in the small pox, amongst children, it is nominated *eclampsia*. The senses are not altogether lost always in the hysterical epilepsy; for hearing is frequently preserved, though the patient may not be able to speak. In febrile convulsions, there are commonly a delirium and *carphologia*, or catching or picking at the bed clothes, or some imaginary things, which is likewise called *collectio floccorum*.

In particular, or local convulsions, or spasms, the senses are not injured, as in the *spasmus cynicus*, *trismus*, &c. The spasms or convulsions are universal in the *epilepsia* and *catalepsis*; but less general in the *tetanus*. A particular member in some species is affected, as in the *spasmus cynicus*, or *priapismus*, &c.

In the tonic spasms, if the body be drawn forward, it is an *emprosthotonus*; if forced backward, an *opisthotonus*.

The muscles are rendered altogether rigid in that violent tonic spasm called *tetanus*. The body becoming rigid, with loss of senses, appearing like a statue, is nominated *catalepsis*. If the causes reside in the origin of the nerves, or in

the cerebrum itself, the convulsions are idiopathic ; if originating from any other part, and affecting, by sympathy, the cerebrum, as in the *aura epileptica*, morbid viscera, &c., sympathetic, or symptomatic.

From the variety of parts affected, spasms or convulsions derive their names : a tonic contraction of the eyelid, *cataclasis* ; a clonic convolution of the bulb of the eye and eyelids, *nystagmus* ; *glossocoma*, when the tongue is retracted towards the fauces in acute fevers ; *trismus*, or locked jaw, when the inferior maxilla is firmly closed, which is a very fatal symptom in gun-shot or other wounds, particularly in the hot transatlantic climates. Catching or picking the bed clothes in the latter stages of acute, febrile diseases, *carphologia*, or *collectio floccorum*, as it is nominated, with an obscure delirium ; an involuntary rigidity of the viril member, *priapismus*, or *satyriasis* : suffocation from a cough in the trachea, *dysphagia* in the œsophagus, when deglutition is impeded ; anxiety in the lungs ; cardialgia and vomiting in the stomach, *singultus*, or hiccups in the stomach, colics, *rectus* and wind in the intestines ; together with the *tenesmus* in the rectum ; *dysuria* and *ischuria* in the bladder ; sneezing, yawning, pandiculation, tremor, palpitation of the heart, and gnashing

gnashing or grating of the teeth, may all be referred to spasmodic, or convulsive affections.

Catalepsy.

The catalepsy is defined to be a tonic convulsive spasm, in which the patient suddenly becomes immovable and rigid, appearing like a statue, retaining the situation and position of the limbs and other parts in which he was placed, when attacked, with an external and internal loss of senses. This disorder is very rare, and its description by different authors not altogether uniform *.

The

* The great Hoffman gives the characteristics of the catalepsy as follows :

The paroxysm of a catalepsy generally attacks the patient suddenly, in this manner : — He remains fixed in whatever posture he happens to be in when seized, whether standing, sitting, or lying. If his eyes are shut, they generally remain so; but as the distemper generally comes on in the daytime, the eyes are most frequently open, and immovably fixed, as it were, upon one object, and cannot be made to wink, though touched or rubbed with a handkerchief. Mean time the limbs are capable of being moved and bended, but remain in whatever situation they are put in. All manner of sensation is abolished; for the patient neither sees, hears, nor feels, even though pinched, hurt, or pricked. The involuntary actions are notwithstanding carried on regularly: thus the pulse is natural and respiration easy; and, as Forestus observes, whatever is put into the mouth is swallowed down. Sometimes the abdomen and inferior ribs are convulsed, ac-

The *proximate cause* seems to consist in a general compression of the medullary substance of the nervous system, and a temporary inspiration

cording to the reports of Forestus, Sylvius, Platerus, and Dolæus; at the same time the anus is so contracted, that it will not admit of the slenderest pipe. *N. Piso* reports, the face continues florid; at last they begin to sigh deeply, and then come to their senses, and give surprising accounts of what they have seen and heard, as if they were revived from a trance.

Curious and remarkable cases of the catalepsy, which give a proper account and history of this distemper, are found in *M. Donati, Hist. Med. Mir.* C. i. p. 91.—*Hollerii, Comment. in Coac. prænot.* p. 66.—*Pisonis de Cognosc. & curand. Morbis*, L. i. c. 13.—*Diversi de affec. partic.* p. 425.—*Fernelii Patholog.* L. v. c. 2.—*Ballonii Consil.* L. ii. c. 1.—*Hagedorn, Cent. i. hist.* 35.—*H. ab Heers, L. i. obs.* 3.—*Rondelet Meth. curand.* L. i. c. 20.—*Zacut. Lusit.* ii. 42.—*Foresti, L. i. obs.* 42.—*Miscell. Nat. Cur. Dec.* i. ann. 4. p. 245.—*Dec.* ii. ann. 1. obs. 1. *Dec.* iii. ann. 3. obs. 61. *Cent.* v. p. 195.—*Aet. Hafn. Vol.* iii. 52.—*Philosoph. Transactions*, N°. 437.—*Aet. Vratislav. Tent.* xxv. p. 240.—*Aet. Nat. Our. Vol.* i. obs. 25.—*Hist. de l'Acad. des Sciences de Paris*, 1738, p. 56.—*Aet. Med. Berol. Dec.* i. *Vol.* ii. p. 62.—*Van Swieten, Comment. in Boerhaavii aphor.* Tom. iii. p. 313, 316.—*Hoffmanni, Med. rat. System.* Tom. iv. p. 1. seq. 1. cap. iv. obs. 1, 2.—*Boissier de Sauvages, Nosolog. Meth.* Tom. ii. cl. vi. p. 415, 417, 418, 420.—*Targioni, Raccolta prima di Offervaz. Mediche.* p. 97.—*Recueil period. d'Observ. de Medicine, par Vander Monde*, Tom. v. vi. p. 41.—*Journal de Medicine, par M. Roux*, Tom. xx. p. 407. seq.—*J. F. de Pré, Diff: de raro affectu Cataleptico*, Erf. 1721.—*H. F. Delii, Diatr. de Catalepsi*, Erlang. 1754. 4.

fation of the oleaginous or other fluids in the minutest cells of the *tela cellulosa*.

It may here also be observed, that many cataleptical cases have been described and published by several writers, which really do not belong to this class, but rather were *tetanus*, *coma*, or *stupor*, where the limbs would not take the arbitrary or voluntary situations, which is the essential character of a true catalepsy.

Such spurious cataleptics are mentioned by *Platerus*, L. i. obs. p. 31.—*Klaunigius*, *Nosocom. charit.* Obs. vii. p. 25.—*Nov. act. Nat. Cur.* Tom. i. obs. 99.—*Sauvages*, l. c. p. 418, n. 3.—*Commerc. Nor.* 1731, p. 330.

Catalepsis de Haen, Rat. Med. 334.

Trew, *casus a mensium ataxia*.

Do. ab officulis in cerebro.

Simson on animal actions, 239.

Septal. caut. 150. an calida fugienda.

Wepfer, de affect. capitis 361. a fumo carbonum; 558 obs. in puella, 15 ann.; 564 in sacerdote, 53 ann.; 563 puella, 7 ann.; 573 pueri, 12 ann.

Catalepsis triduanæ febri superveniens.

Boneti Sepulchr. a consternatione, a flatibus, a male curata erysipelate, ab intentione animi, amore, melancholia, inanitione, &c.

In the *tetanus* all the limbs are fixed and immovable; in the catalepsy they are fixed indeed, but easily flexible, and remain in whatever position they are placed.

This distemper occurs very seldom. The fits last some hours. *Forestus* gives an instance of one in a young man, which continued three days. It is seldom preceded by any signs before its approach.

The *remote causes* are many ; as sudden vehement terrors, grief, hopes frustrated, unexpected joy. *Tulpius* mentions an instance of the catalepsy happening from extreme love, and an unexpected refusal of marriage to a young Briton. There have been examples where the cataleptic have died on the sight of affectionate friends who had been long absent, and thought dead. Unusual clangor, clamor, or a view of any thing dreadfully horrid. The mind intent on one object ; abstracted meditations ; an assiduous reading of books containing cabalistical mysteries ; alchemy ; religion, or rather superstition, and an anxious concern for happiness, or fear of punishment or hellish torments in a future life ; strokes by lightning ; the fumes of charcoal ; extreme cold ; worms ; are all mentioned by authors as causes of this extraordinary disease ; as likewise suppressed evacuations, or hæmorrhages, to which patients have been accustomed ; violent affections of the mind, &c.

The fit, in a moderate time, remits of its own accord by a nasal hæmorrhage, or terminates in a fatal apoplexy. Sometimes reverting, it produces fatuity, madness, epilepsy, an atrophy, or dropsy.

The *cure* should be conducted in a manner similar to other convulsive diseases, according

as circumstances arise, and agreeable to the causes, or constitutions of the afflicted. Bleeding largely in the plethoric, with antiphlogistics and antimonial diaphoretics, purges, pediluvia, warm bathing, cuppings, scarifications, and blisters, as evacuants. To the pallid, debilitated, and nervous, volatiles, antispasmodics, tonics in the intervals of the paroxysms, bark, &c., will be most eligible.

Tetanus.

The tetanus is an involuntary *tonic* contraction and rigidity, without relaxation, of almost all the muscles of the body.

The idiopathic tetanus is rarely seen in Europe; but it is nearly endemic in hot regions. *Trenka*, *Starke*, and *De Haen*, have written express treatises on this disorder.

In the paroxysm the body becomes altogether rigid and extended, immovable, and suddenly falls.

If the body be curved and drawn backwards, it is called *opisthotonus*; if bent forwards, *emprosthotonus*. Some add the *pleurothotonus*, when the body is inflected towards either side; but observers have rarely seen this third species.

The *trismus*, or locked jaw, is a partial disease similar to the *tetanus*.

The

The *phænomena* which occur are the following:—The face is now pale, then reddens; the eyes movable, and full of tears; distention of the hypochondria; singultus; tumors in the throat, not dissimilar to the *globus hystericus*, but more vehement; the pains are acute and excessive in the muscles affected, similar to what is felt in the cramp, but universal in the tetanus instead of partial; the patient is wakeful, and not insensible: in some instances a slight delirium is a concomitant; respiration mostly continues without interruption, but sometimes sibilous and stertorose. The fever, which always accompanies the tetanus, and the non-abolition of the senses, distinguish this disease from the catalepsy. The blood appears sometimes, though rarely, inflammatory; a pertinaceous constipation attends; the saliva is sputuous, and continually flows from the mouth.

The immediate causes of convulsions, regular and irregular, or involuntary, muscular actions, have been already considered from page 338 to 345; but those observations are more confined to clonic convulsions than to the tonic, of which last the *tetanus*, *opisthotonus*, *emprosthotonus*, and *trismus*, are examples, and may be treated under one head.

The determination of the will to move the muscles affected, in the *tetanus* remain; the arterial

arterial influx with the vital principle of the nervous influence are apparently conveyed, to the muscles, without effect, the senses not being abolished.

The *vires in situæ* of muscles do not obey the intention of the will, but suffer muscles to become rigid, instead of acting and re-acting, or occasioning relaxation to succeed contraction.

The muscles resist the natural impulsive powers of the mind; both flexors and extensors become rigid, immovable, and very painful, as in the cramp; which last, however, is local and more transitory *.

The arterial muscular influx with the nervous influence being irregularly distributed, sent in greater abundance, or fluids accumulated in the minutest parts of muscular structure, seem to overbalance the *vires in situæ* of muscles: hence rigidity without relaxation; hence action without re-action.

The muscles still receiving the arterial and nervous irritating influx, which accompanies the nervous and arterial system † for the purposes of

* The cramp, which attacks the *gastrocnemii* and *soleus* muscles, or their tendons in the legs, is a common disease, and extremely painful: the tetanus seems a similar disease, but universal instead of local, and of longer duration.

† In the *Schola Medicinae* is a plate demonstrating the structure

of muscular action, and the distraction of the nervous fibrillæ, account for the exquisite pain of the cramp and tetanus. This pain seems to reside in the *tela cellulosa*, which is interwoven amongst all the divisions and minutest sub-divisions of muscular fibres, and is in a state of distension.

The impelling powers must be equal to irritat-ing muscles to action: they powerfully act on the muscles for the office of contraction, and the *vires insitæ* of muscles stimulated to action, have a power of assisting, or perhaps performing, the office of relaxing muscles.

The tetanus is, therefore, attempted to be accounted for on the principles of an over-abundance of the nervous and arterial influence forced and directed involuntarily to the muscles, and a debility, resistance, or other impe-diment, in the *vires insitæ* of muscles to re-cieve, or convey the impelling powers.

The over-abundance of arterial and ner-vous influx irritates or over-acts the *vires insitæ musculorum*, and compresses the medulla-ry expansions of the nervous system; the *vires insitæ*, by this compression, become passive. The oleaginous, or other fluids contained in the cells of the *tela cellulosa*, which pervade

ture of muscles according to very minute microscopical obser-vations, which more fully explain muscular structure and ac-tion than the limits of this work admit.

not

not only the divisions and sub-divisions of muscles, but every minutest muscular fibre, become coagulated, or nearly so, inducing painful rigidity without relaxation.

It may be remarked, that as the senses remain in general not injured, and vital actions continue; neither the cerebrum nor cerebellum are, at first, materially affected, except in those instances that are attended with a slight delirium.

It must be confessed that dissections shew little, and the immediate causes of this dangerous disease have been considered very obscure: they, in some measure, bid defiance to rational indications, according to the ingenious and learned Dr. Cullen; but, notwithstanding the difficulty, some attempts will be made to shew, by a physiological and pathological review and scrutiny into the proximate causes of the disease, some methods of cure, on rational principles.

The *remote* or original causes of the *tetanus* must be sought for in the nervous consenting system. Authors have given instances of its arising from the effects of hunger; great labor or exercise; immoderate venery; large evacuations; metastasis arthritica, podagrifica, erysipelatoria, exanthematica, scabiosa; absorption of purulent or putrid pus; various cachexies; wounds

wounds in which the nerves or tendinous expansions have been injured, particularly punctures of those parts which have produced the symptomis after the puncture seemed cicatrised; amputations; contusions; luxations; carious teeth; indigestion from hard substances received into the stomach; poisons admitted either by the mouth, lungs, or rectum; sordid colluvies in *primis viis*; worms in the stomach or intestines; cold or extreme hot weather; from sleeping *sub Jove* after hard wine or spirit drinking; from the puncture of the *draco marinus*; from the use of funguses: to these may be added *pathemata animi omnia*. — I remember an instance at Guy's hospital above twenty years ago, where, in castration, on tying the spermatic chord, universal spasms seized the patient; which, on Mr. Way's slackening the ligature, diminished, and soon totally ceased. A strong proof of nervous sympathy!

The explanation of the *immediate causes* of the effects observed in the *tetanus*, *opisthotonus*, *emprosthotonus*, *trismus*, or locked jaw, and all *tonici spasmi*, may be accounted for in the following manner, which perhaps conveys a clearer idea on the subject than has yet appeared, though not altogether so satisfactory as could be wished:

1. Voluntary motory muscles are inactive,
except

except by the command of the will, or, in disease, by the influence causing convulsions.

ii. The mind commands muscles to action either partially or generally; either a particular finger, or the arm, legs, toes; or extremities and head all together.

iii. The first power the mind has, to communicate to the muscles destined to obey action, or the mind's intentions are equal to a certain degree of irritation, either of mechanical or chemical stimuli.

iv. This is certainly conveyed by the nervous powers, as impediments, by compression, &c., on nerves going to parts fully prove, for deprivation of motion follows. It is easy to conceive the coagulation of oleaginous, or other fluids, in the *tela cellulosa* accompanying the nervous *fasciculi* capable of producing a like effect, and impeding the free *transitus* of the nervous powers.

v. The influence of the *vires insitae* is the second action, namely, contraction, or relaxation, according as the will commands.

vi. The *tetanus* and *spasmi tonici* are contractions, or extension joined with rigidity, without mobility or relaxation.

vii. This contraction, or extension of muscles without mobility, seems nothing more than some influence equal to the strong electric shock, or

or some poisons, and sufficiently powerful to inspissate or coagulate the oleaginous or other fluid contained in the cells of the *tela cellulosa*.

viii. For all muscular motion is facilitated and preserved by the fluidity of the oleum or other fluids, in the divisions, sub-divisions, and even between the most minute muscular fibres discernible by the microscope.

ix. The mind can easily conceive the coagulation of the oleum, coagulable lymph, serum, &c., through all the interstices of muscles, through all the divisions, sub-divisions of the ligaments, aponeuroses, fasciculi, and minutest muscular fibres, intertext with the *tela cellulosa*, the cells of which evidently contain an oleous, or other fluid, &c.

It is perhaps an acrimonious change of that fluid, that irritates and occasions the exquisite pains in the rheumatism, which is entirely a muscular disease.

x. The transitus of the subtlest arterial fluid may be first accelerated in the cellular structure of the *tela cellulosa*.

xi. The cells having received, and being overcharged with more fluid than usual, neither the venal, sanguiferous, nor lymphatic vessels, are capable of absorbing, or propelling the increased quantity of fluid forced into the cells, brought by the arteries.

xii. An inspissation or stagnation of the fluids may happen in the minutest cells; the absorbent or venal system cannot then easily reconvey the humors.

xiii. This state of the cellular structure probably resists the nervous influence, or the energy of the nervous and even the minute arterial powers may be diminished; hence rigidity and immobility.

xiv. For the *arteriole* opening in the cellular structure pour forth their fluids into the cells; whether this be fat, lymph, serum, or a subtle moist air, with which the minutest cells are irrorated. This can be proved by minute anatomical ~~in~~ *sections*, by maceration and inflation, &c.

xv. The communication of the cells in the *tela cellulosa* of the whole body is well known to every physiologist, and it is evidently demonstrated by the anasarca, emphysema; by abscesses forming in one part, and conveying the matter through the interstices of muscles to parts distant, as in the *psoas* disease, and many others. The inflation of veal is well known to be a conveyance of air to fill up the cells of the *tela cellulosa*.

xvi. In the *tetanus* neither the cells of the cutis nor the *membrana adiposa* are injured; but the cellular structure all through the muscular

G g system

system containing fat, lymph, serum, or aërial fluids. There is a circulation of fluids not only through the arteries, veins, and lymphatics, but likewise through the cells of the *tela cellulosa*; the cells receive fluids from arteries, and return them to the veins.

xvii. Therefore the fluids, either filling the larger cells, or irrigating the most minute cells with a fine aërial subtile vapor, instead of a free and constant circulation, as in health, become, in the tetanus, stagnated, either by some sedative powers acting on the nervous and arterial systems, or by being rendered, through accumulation or inspissation, incapable of conveyance through the capillary tubes to the larger veins. A closer cohesion of the particles composing fluids may, in some measure, effect this minute obstruction, while the larger arteries and veins of all parts continue to perform their offices until the venal blood itself becomes coagulated, and this ends in death.

xviii. The rigidity and immobility of muscles is caused by the coagulation of the adeps, or other fluids, counteracting, resisting, and overcoming the nervous powers destined to convey from the mind muscular action, &c.

In dissections after death, therefore, nothing can preternaturally appear; for this adeps, or any other fluid, in the cells, is always coagulated

gulated by death, which is the actual cause of the rigidity of the body, or stiffness, observable in the dead subject. This is demonstrable in preparing the body for anatomical injections, where the reliquefaction of the oil or adeps by the warm water renders the muscles and joints pliable.

The electric shock destroys life instantaneously in a similar manner, as likewise lightning; for they probably coagulate all the adeps, destroy the animal and vital powers, without any evident marks of violence. Whether the increased nervous influence is similar to the electric shock is difficult to determine; but their effects, however, seem not very dissimilar.

The importance of the *tela cellulosa*, then, appears still greater than has been imagined, when we consider that no arterial motion can exist or proceed without its office: it composes the greatest part of arterial coats, the vagina and interstices of nervous fasciculi, and every part of the human body, the muscular fibres excepted, and its unctious cellular fluid facilitates and preserves parts destined to every action through life by its constant supply.

Wherever the fluid contained in its cells coagulate, motion must absolutely cease: this idea may be carried to all the minute ramifications of arteries, nerves, lymphatics, their coats be-

ing composed principally of the *tela cellulosa*, and the cells of this membrane always contains a fluid, either oleous, lymphatic and coagulable, or serous, as in dropsies, exclusive of aërial fluids, which penetrate through every part, however minute.

The immediate cause, then, of the *tetanus* is supposed to be an inspissation, or coagulation of the adeps, oleum, lymph, &c., in the cells of the *tela cellulosa*, occasioning a resistance superior to the nervous influence for the purposes of muscular action.

The cure of the *tetanus* and other *spasmi tonici* have been attempted by bleeding, which some advise and others reject; cuppings, scarifications, leeches, arteriotomy in the temples, emetics, cathartics; by the oleum ricini in worm cases; diaphoretics, if arising from eruptions retropulsed; emollient fomentations, and frictions with oil, by warm horse dung. *De Haen* recommends cold fomentations, but in young persons hot, vesicatories, erythines, electricity. *Bontius* gives opium to a scruple, which *Lind* and *Chalmers*, with many others, adopt. *Monro* advises salivation; and mercury is prescribed by many internally and externally. *Collin* advises his favorite medicine, *flores arnicæ*; musk, and bark, if periodical.

The

The celebrated Dr. Cullen thinks any scientific plan of cure vain and fruitless ; in which, with the utmost respect for that truly great and rational physician, I must beg leave to differ. The Doctor remarks, from the judgment of others, that opium, in large doses, often repeated, has been efficacious, and unites musk and camphor ; warm bathing has proved injurious ; mercury has been found useful lately, blisters hurtful. The Petroleum Barbad nse, or Barbadoes tar, and cold bathing, has lately been introduced with success.

It may be necessary for me to repeat the remark I formerly published in the *Medical Advice to the Army and Navy serving in hot Climates, which I presented to His present Majesty*, that, having seen numerous instances of these tonic spasms, particularly the locked jaw after gunshot and other wounds, fevers, &c., I must confess, that musk, camphor, blisters, warm bathing, opium in full doses. &c., generally failed, and the patients died : indeed so frequently, that I was induced always to conclude the case very desperate whenever those symptoms appeared.

From repeated reflection on the subject, the frequent ill success of opium, warm bathing, blistering, musk, camphor, and electricity, &c.,

I was determined to attempt the cure by other methods; namely, by antimony and mercury combined. Two instances occurred in London: the one a lady, who taught many of our nobility the harp, had a *trismus*, or locked jaw, which was cured by *Plummer's* pill to two grains every six hours; a strong solution of camphor and the eighth of a grain of *tartarum emeticum* after each pill. These remedies caused a continual perspiration; the patient was kept in bed, but a free air was circulated through the room, and in the course of a few days the disorder was perfectly cured.

Another instance was Mrs. G., of Broad Street, Carnaby Market, who was cured of an *emprosthotonus* and locked jaw, not indeed so soon, but by a similar treatment with the former. The dose of the *pilula Plummeri* did not exceed one grain about every eight hours, and a sixteenth of a grain of *tartarum emeticum* dissolved in camphor solution; this patient's stomach being more irritable, and the habit weaker than the former.

A *speculum oris* is commonly necessary during the cure, to render the mouth sufficiently open to receive light broths and medicines, &c.

As this disorder is rare in England, it might perhaps be eligible to attempt the cure in the hot

hot climates by the method here communicated.

The reasoning which gave origin to this treatment was from observing callosities surrounding ulcers often become soft by the combination of mercury and antimony, cinnabarine fumigations, &c.*

This callosity I repeatedly demonstrated, while I practised surgery, to be a coagulation of the adeps in the cells of the cellular membrane immediately under the cutis.

Conceiving the rigidity in the *spasmi tonici*, and other immobility of muscles, to be nothing else than the coagulation of the oleum, lymph, &c., it was imagined, from analogy, that some success would follow a similar treatment.

Rigidity in muscles I have often relaxed by such treatment. Two years ago a patient of Mr. Billinghurst's, near Shepherd's Market, May Fair, was cured of an induration, rigidity, and lameness, in the *gastrocnemii* and *soleus* muscles, by a pediluvium composed of sal. communis and aqua tepida, and solution of *mercurius corrosivus sublimat.* and *tartarum emeticum* united, in the dose of a sixteenth of a grain, internally, of each *ter de die*, mixed in

* See *Treatise on the Cure of ulcerated sore Legs, and other Impurities, &c.*, 4th edition; in which observations made for near thirty years are unreservedly communicated, &c.

a decoction of sarsaparilla with nitre. A weak mercurial ointment strongly impregnated with camphor was rubbed into the ankle, being below the direction of the lymphatics proceeding to the muscles affected. Numerous instances of this sort might be adduced; but as this case had resisted every other mode many years, and the gentleman had long suffered miserably from his lameness and pain, it is mentioned to induce other practitioners to attempt the cure of rigidity of parts by such like methods.

It should be observed, that though the disorder is very common in hot climates, yet it rarely happens in England. For the space of twenty-two years that I have been settled in this great metropolis, during all which period I have seldom seen less than between one and two hundred patients on my public days, weekly, and sometimes more, I scarce ever recollect having this disorder to prescribe for, except in the instances now mentioned.

The attempts to cure the *tetanus*, *emprestbotonos*, *epistbotonos*, and *trismus*, or locked jaw, or any other rigidity of the tonic spasmodic class, may be conducted in a similar manner.

The removal of the evident local cause, as compressions or wounds of nerves; for which purpose division of the nerve is recommended by numerous authors. When the nerves of the hand,

hand, wrist, ankle, or foot, from previous wounds, laceration, puncture, &c., are the causes, the division of the nerve can seldom be performed, because the tendinous aponeuroses mostly cover those nerves and nervous filaments; therefore, unless it should be an external cuticular nerve, the operation is impracticable. If the deep-seated trunk of the nerve sending branches to the part could be divided, which is very difficult, on account of its contiguity with the artery, exclusive of the uncertainty of its exact situation, and the improbability of discovering it even by a careful dissection; yet the success of the operation would be dubious, and would injure all the other parts below, wherever it spreads filaments or penetrates membranous expansions.

The division, then, of the nerve is not always so easy as physicians who prescribe it imagine; but in general must be impracticable, hazardous, or injurious, as every one versed in anatomy, and who has seen, by practical experience, the danger of punctures, wounds, or laceration of tendinous expansions, or nervous membranes, must acknowledge.

From the foregoing considerations on the nature of tonic spasms, and the ill success attending the methods formerly experienced in hot climates by opium, musk, camphor, warm bathing,

bathing, &c., I should be induced to attempt the cure by the combination of mercury and antimony, as more likely to succeed than either opium alone, or when joined with anti-spasmodics.

It appears rational to raise and continue a gentle perspiration, without increasing heat; by this means, if the inspissated or coagulated fluids occasioning the rigidity become reliquified and thinner, absorption might follow, and thus a cure might be effected by a resolution and a recirculation of the cellular fluids, and a relaxation of the cause of rigidity.

Antimonium tartarizatum, in small doses, with *solutio camphorata*; the *pulvis antimonialis*, with calomel, fumigations of cinnabar, or *Æthiop's*, received gradually by the mouth; mercury rubbed into the arms and legs, with camphor, in the form of an ointment; James's powder alone, or joined with calomel; Plummer's pill; *Kermes mineralis*, with *argentum vivum* or calomel; Plenk's solution, with *tartarum emeticum*, and such efficacious preparations; with frictions, and pediluvia of *aqua tepida* and *sal. commune* dissolved; might bid the fairest to remove this terrible affection.

As the disorder is not only rigidity of muscles, but likewise a strong affection of the nervous system, musk, camphor, *oleum animale*,
oleum

oleum succini, and other volatiles or fetids, may be prescribed, though their evident effects are much more ambiguous than antimony and mercury in very small doses and frequently repeated. If opium be given, let it be joined with our *pulvis antimonialis*, *tartarum emeticum*, James's powder, &c., and then two indications are answered — the attempt to relax the spasm, and the dislodgment of the impacted fluids in the cells of the *tela cellulosa*.

From the little success I have observed by the use of opium, I must confess I should not be strenuous to prescribe it in these kinds of disorders, but proceed to what appears more rational and efficacious. Indeed there seems to be sufficient conviction of its inutility, from several eminent physicians in the hot climates lately omitting it, and prescribing mercury; cold bath, &c., in preference to opiates.

The imminent danger and acuteness of the disease require prompt remedies, and a spirited exertion in the prescriber : there is no time for expecting any wonders from what is called nature ; therefore art must give vigor to the solvent and expulsive powers, and drive, if possible, the causes of the disease from the habit, or the destruction of the patient is the inevitable consequence ; many instances of which I have formerly observed. In such desperate diseases,

where

where recovery is very doubtful, and death almost certain, it is justifiable to prescribe boldly an active remedy; for if it should not succeed, the patient cannot be rendered worse by any humane, liberal, and rational attempt.

As to warm bathings, pediluvia excepted, they perhaps rather inspissate the fluids in the *tela cellulosa*, which is perhaps the reason why they have proved injurious by too much increasing the heat, which, in hot climates, is very intense. If baths or pediluvia are used, their heat should be very moderate, and thus might be more useful, if, according to circumstances, either *sal commune*, *borax*, *sal nitre*, *sal volatile c. c.*, or weak solution of fixed alkaline salt, be added*. I have known these tepid baths very beneficial in many inflammatory disorders, acute rheumatism, &c. It is certain if these species of baths be prepared weak, some of their particles are received by absorption; not indeed by the lymphatic system, which I believe excludes saline particles, but by the minute venous absorption communicating immediately with sanguiferous veins. This can be proved to exist, contrary to the late re-

* Experiments shew that heat in certain degrees inspissate or coagulate fluids; lymph by 114, serum 150, of Fahrenheit's thermometer, the latter not without losing a great portion of its volatile parts, &c.—Haller, lib. v. sect. iii.

ceived opinion of some very ingenious and eminent anatomists and physiologists.

Obstipitas, or Spasmus of the Neck.

The tonic spasm of the neck prevents the mobility and flexibility of the head. When it is accidental from cold, known by the name of stiff neck, it is cured by fomentations of warm water and common salt, and volatile liniment; to which may be added *oleum terebinth. æther.* and *tinctura thebaica.*

I have observed in practice a great mistake in the application of external remedies. The muscles on the stretch occasion most pain, and are rubbed with liniments, &c.; whereas those that are contracted are alone diseased; therefore remedies should be applied to the contracted parts of the muscles, in order to relax the spasm.

If the wry neck should arise from a distortion or inflexion of the vertebra, it is rarely or with great difficulty curable.

In the wry neck arising from a fixed contraction of the mastoid muscle, the division of that muscle by a chirurgical operation is necessary, which liberates the patient from the disfiguring disorder.

ON

DEBILITY, &c. &c.

On nervous Debility.

The diminished or impeded faculty of performing the natural vital and animal functions proper and usual to each individual is called debility, and by the Greeks adynamia.

Various are the causes that may induce nervous debility, and it may be universal or partial, from impediments in the nervous system; as defect in the brain or nervous powers, their activity or electricity diminished, or the transitus of the nervous influence being diminished or impeded.

Electricity in the human body is diminished by moisture, augmented by pure clear air; the former is common to swampy and low situations, and occasions depressions of spirits; the latter renders the inhabitants volatile, impetuous, and lively, and is found in open or lofty countries, and in warmer climates.

The electrical fluid and the nervous influence are greatly obtunded and weakened by putrid, cadaverous, poisonous, and narcotic exhalations,

halations, contagious miasma in malignant epidemic diseases ; or by pathemata animi, as terror, grief, &c. ; sedentary life, too much sleep, gross, viscid, or farinaceous diet, too delicate attention to the constitution : hence the children of the opulent are often less robust than rustics.

The avoiding these causes, which diminish the nervous powers, proves the prevention or cure.

The impediments of the nervous influence are, compressions, ligatures, tumors, callosities, plethora, cacochymia, &c. ; all which are, if possible, to be removed.

There are, besides, profuse evacuations, prolapsus, herniæ, distensions, varices, aneurisms, rupture of vessels and effusions of blood, drop-sies, diabetes, &c., &c., which may occasion general or partial debility, and should be treated according to art.

The more weakly children have soft bones : hence rickets, distortions of the spine, &c.

In such cases, besides evacuations to cleanse the surface of the intestines, &c., and tonics or alteratives, animal food should be prescribed, and all vegetables, fruits, roots, puddings, &c., avoided.

From the laxity of the *tela cellulosa*, and a diminished energy of the nervous system, women

men are subject to hysterical and spasmodical affections; men to the hypochondriacal. Debility, from slight compression in the *cerebrum*, produce delirium, dulness, stupor, in the eyes dimness, in the ears tingling and deafness. From the least bodily motion the heart beats with velocity, with short cough, particularly on laughter, sneezing, calling, singing, or any exertion; the arteries likewise beat with greater velocity; the nerves and tendons vibrate, as those subject to tremors frequently experience.

This nervous debility should always be treated according to its respective causes, which, being discovered by the symptoms, and reflection of the medical practitioner, are to be, if possible, removed.

In plethora; evacuants and venæsection; in pallor and weakness, tonics of bark, steel, &c., and a nutritious, dryish diet; in obstruction and cacochymia, alteratives, mercurials, or antimori- nials, in small doses, are occasionally eligible.

Pure air, proper exercises, cold bath, and amusements, much contribute to remove nervous debility.

Electricity, as it augments the circulating powers when sparks or the electrical stream are conducted through the body, may be likewise of considerable utility; but it would be improper in plethora.

FEMALE DISEASES, &c.

The Vertigo.

The vertigo is a disorder in which objects at rest seem to turn round : it is called a giddiness or swimming in the head, and is not dissimilar to intoxication by strong liquors.

The vertigo seems often the first step towards apoplexy. Various colors appear before the eyes, objects are often seen double, with ungrateful dinning or sound in the ears, &c. : if the disorder be more vehement, the patient totters, and is scarcely able to stand erect without support ; and it is accompanied sometimes with nausea and vomiting.

The proximate cause is in the sanguiferous and nervous system of the encephalon ; but the remote causes are numerous : the vertigo, therefore, may be symptomatic, or idiopathic. This dissections clearly demonstrate* ; for the causes and

* DISSECTIONS AFTER DEATH.

Symptoma morborum.

Vertigo, cum febre, capitis & hepatis dolore, convulsionibusque sine ulla purulenta expectoratione.

Accersit vomitum & dolorem ventriculi.

Invadit crapulosum.

Extispicia cadaverum.

Pulmones & hepar putriditate affecti.

Omentum putridum, ventriculus rigescens.

Ventriculus inflammatus in parte inferiore.

and effects are not only discoverable in the head, but in the thoracal and abdominal viscera, communicating the sensations by means of the *par vagum* and intercostal nerves, their ganglions, &c., to the brain.

The idiopathic vertigo arises from injuries of the scull, or brain; as wounds, contusions, compressions, overfullness of vessels, or extravasation of fluids in the ventricles or other parts of the brain, &c., strong passions of the mind, &c.

The sympathetic vertigo takes its origin from the stomach or intestines oppressed with wind, or

Symptomata morborum.

Cum cephalalgia, delirio & affectu comatoso interdum recurrentibus.

Febre acuta enecatur puella vertigini obnoxia.

In affectum caroticum abit.

In apoplexiā.

Item;

Item.

Extispicia cadaverum.

Pars superior corporis callosi, putrida.

Substantia cerebri humida, aqua in ventriculis, vasa meningum repleta.

Cerebri anfractus & ventriculi, colluvie serosa madebant.

Aqua in cerebri ventriculis.

Glandula pinealis ingens, carcinomatis naturam redolens.

Vasa cerebri & pulmonum sanguine turgida, sanguis præterea effusus intra substantiam cerebri.

Cum

or overloaded with strong liquors; in superabundance of bile; worms; from the use of henbane, hemlock, opium, belladonna, or narcotics, poisons, &c.

The metastatic vertigo may arise from acrimony, as gouty, rheumatic, or venereal; or suppressed evacuations, costiveness, from humid and cold air, &c.

Dr. Mead, and many celebrated physicians, recommend vomiting; but such practice I con-

Symptomata morborum.

Cum convulsionibus sœvit
& spirandi difficultatem accer-
fit.

Apoplecticum affectum ac-
cerfit; quo curato ingruit
asthma cum iætero & febre
lenta.

Succedanea: Capitis con-
tusioni & apoplexiā accerfit.

Cum vomitu & stupore post
casum ab alto invadit ebrium,
quem sustulit apoplexia inopi-
nata.

Succedit dolori capitis.

Post vulnus occipiti inflic-
tum paralyſim sibi accerfit.

Abusu meri foyetur & in
apoplexiā lethalem degene-
rat.

Extispicia cadaverum.

Intestina flatu turgida; re-
nes calculosi, aqua in thorace;
pulmones duri & exæsi, aqua
in pericardio, & cranio.

Pulmonum tubercula, he-
par durum.

Tumor tunicatus in sinistro
cerebri hemisphærio.

Ventriculi cerebri sanguine
turgent, cranium fractum oc-
currit.

Aqua in cerebro.

Ventriculus cerebri dexter
aqua limpida turgens, illæso
sinistro ventriculo.

Sanguis concretus in cere-
bro.

fider hazardous, as it forces a great quantity of blood to the head, and may rupture vessels that previously were in a state of distention.

The cure of the vertigo, like all other diseases, should be conducted according to causes and constitutions, age, sexes, and climates. In plethora and threatening apoplexy, bleeding, evacuations, and abstinence; in nervous irritability, antispasmodics; in flatulency, lime water, &c.; in debility, tonics; and in acrimony, correctors, according to the species.

All flatulent diet, ale, small beer, &c., should be avoided.

On soporose Affections.

The soporose affections comprehend the lethargy, carus, coma, &c., which are properly considered lighter species of the apoplexy.

The lethargy is a profound sleep, accompanied with fever and loss of memory: the patient assists not himself in the evacuation of urine, and commonly sleeps with the mouth open*.

The

* DISSECTIONS AFTER DEATH.

Symptomata morborum.

*Lethargus, cum stupore &
paralysi dextri lateris:*

Extispicia cadaverum.

*Cerebrum & cerebellum in
parte dextra & postica omnino
saniosa, putrida & corrupta.*

Lethargicus

The *carus* is the most profound sleep, from which the patient cannot be awakened, and is the nearest in degree to the apoplexy; but it proceeds

Symptomata morborum.

Lethargicus evadit quidam
cordis oppressionibus & leipo-
thymia laborans cum æde-
mate corporis & dein sphacelo
ortis.

Cum paralyfi totius fere la-
teris sinistri, se se adjungit
fluxui purulento e naribus.

Post capiti infictum vulnus
subsequuntur convulsiones.

Succedit capitis intume-
fcentiae.

Doloribus nephriticis & if-
churiæ.

Catalepsia, sæpius recurrens
in epilepsiam lethalem abit.

Amentiæ succedit.

Affetus soporosus. Carus
concomitatur ifchuriam.

Nostalgiae se adjungit.

Motus convulsivos lethales
accersit.

Excipit dolorem capitis.

Extispicia cadaverum.

Pericardium cordi adna-
tum.

Pus e cerebro ad nares, me-
diante foramine carie efforma-
to appellit.

Cranium illæsum, sanguis
in cerebro stagnans.

Hydrocephalus.

Renes & ureteres calculis
infarcti.

Sanguis effusus inter anfrac-
tus cerebri, vasa encephali tur-
gida, & colluvies sanguinolen-
ta in cranio.

Cerebrum exsuccum.

Ren sinister ingens calculis
infarctus.

Ventriculi cerebri & cor
sanguine polypoſo turgent.

Lien magnus & quasi os-
seus; aqua in cerebro; gela-
tina juxta tractum meningis.

Tumor steatomatosus in la-
tere sinistro cerebri.

proceeds with a freer respiration and without stertor.

The

Symptomata morborum.

Vertigine prehenditur cui
dein succedit sensuum aboli-
tio.

Somnolentus digitos conti-
nuo naribus admovet, febri-
tat & vermis strangulari con-
clamat.

Quem excipit catarrhus.

Exoritur in febre continua.

Succedaneus. Vertigini.

— Ischuriæ.

— Item.

— Vomitui & doloribus
ventris.

— Epilepsiae cum dolore
in sinistro capitis latere.

— Cephalagiae, pulsu sa-
no superstite.

— Vertigini & cephalal-
giae.

— Paraphrenitidi.

— Delirio cum palpi-
tatione cordis.

Extispicia cadaverum.

Sanguis effusus in cerebri
ventriculos.

Abdomen intactum, ventri-
culi cerebri aqua scatent.

Aqua limpida inter corti-
cem cerebri & corpus callo-
sum ; pulmones putridi.

Pulmones putridi partibus
vicinis annexi.

Aqua in cerebro.

Renes & ureteres calculis
infarcti.

Colluvies circa vias urina-
rias.

Pylorus scirrhosus ; aqua
in crano, & cerebri ventri-
culis.

Abscessus in cerebro in do-
loris sede.

Abscessus in cerebello.

Meninges crassæ.

Cerebrum intactum, ves-
cula fellis, bile atra tumens.

Cerebrum & cerebellum du-
riora ; ventriculi cordis con-
cretionibus scatent.

Excipit

The *coma somnolentum* is a propensity to sleep, in which, however, the patient can be awakened by external moving objects, and then immediately falls again into dozing or sleep.

These disorders are commonly accompanied with others, or lead to the apoplexy, palsy, &c.

The dissections shew various causes in the head, polypose concretions in the large vessels; their treatment will be considered under the disorder called apoplexy, to which they are nearly allied.

<i>Symptomata morborum.</i>	<i>Extispicia cadaverum.</i>
<i>Affectus soporosus.</i> Excipit fistulum cranio infictum.	Contra fissura cranii & sanguis stagnans in cerebro.
Item.	Pus inter cranium & duram meningem sanguis effusus in ventriculos cerebri.
Item.	Sanguis effusus in ventriculus cerebri.
Circa os temporum.	Abscessus cerebri juxta locum percussum.
Item.	Sanguis effusus in cranium.
Frontis.	Abscessus in parte antica cerebri.
Vulnus acinace occipiti infectum cui fese implicat hemiplegia.	Aqua & pus in ventriculus cerebri.
Inflammationi palpebarum.	Fractura in orbita & abscessus in cerebri parte antica.
Post eruptionem petechiarum in febre.	Cerebrum, hepar, ventriculus & intestina inflammata.

The *coma vigil*, *pervigilium*, or *agrypnia*, are diseases contrary to the preceding.

The *coma vigil*, or *typhomania*, is called a spurious lethargy, in which there is a propensity to sleep, with delirium, yet no sleep follows. The eyes are suddenly opened, the aspect looks wild, the patients are clamorous, and talk incongruous.

The *pervigilium* is a state in which the patient cannot sleep, neither day nor night; sometimes with delirium. This is ominous in acute diseases.

These symptoms arise from irritation on the brain and its membranes, and various are the causes, both remote and proximate, as acrimony, fractures, contusions, wounds, the stone, and other vehement pains; spasms, whether topical or universal; inflammations, plethora, diseases of the stomach, diaphragm; pains in the bowels of infants, &c.

The *cure* consists in removing the causes.

On the Apoplexy.

A sudden abolition of the senses, profound sleep, with stertor or snoring, is called apoplexy.

This disorder was formerly divided into two species, the serous and sanguineous.

...ical inquiries and practical observa-
tions.

tion, however, show various causes capable of producing the apoplexy; therefore those ancient divisions, as they neither afford a precise idea of the disease, nor comprehend its original causes, other divisions more applicable to the different species are eligible.

In the former part of this work the treatment of the hysterical apoplexy is explained; therefore the different species, and causes producing this dangerous disease, shall be briefly delivered.

The *apoplexia sanguinea*, *sanguineous apoplexy*, or the species of this disease arising from plethora.

This commonly attacks patients with short necks, florid complexions, and is induced by muscular inactivity, overabundance of foods and drinks, and an inattention to constantly procuring sufficient evacuations, violent passions, particularly anger, &c.

The effects produced are distended vessels in the brain and its membranes, water in its ventricles, &c., and, if the disorder prove fatal, extravasation of blood, &c.

A greater quantity of blood is conveyed to the head by the carotids, both external and internal, and vertebral artery, than the sinuses, internal and external jugulars and occipital veins,

veins, are capable of returning; hence compression of the medullary substance of the brain, rupture of vessels, and death,

The arteries and veins within the brain are of a weaker structure than in the other parts of the body; hence dilatation, rupture, and extravasation of fluids.

As there are no muscles within the brain, nor elongation or contraction in those parts, the circulation is less vivid; yet by the means of the sinuses fewer accidents happen than might otherwise have been expected.

When the apoplectic stroke proves fatal, a sudden stagnation of blood in the veins seems to be a principal cause; therefore venæsection fails.

The heart and arteries seem convulsed; the blood is violently projected towards the head; the venal system not returning, the blood is the cause of first redness, and afterwards lividness in the face, lips, distention of vessels in the conjunctiva of the eyes, &c.

The blood is forced by the aorta and arteries to the head and other parts; the substance of the brain is compressed by plenitude either of viscid or serous blood; the will loses suddenly the power of commanding the voluntary muscles; the patient totters, reels, and falls down either

either dead or in a state of stupid insensibility, froths at the mouth, and snores*.

If, after a large bleeding, as before recommended,

* DISSECTIONS AFTER DEATH.

<i>Symptomata morborum.</i>	<i>Extispicia cadaverum.</i>
<i>Apoplexia.</i> Cum convulsionibus ingruit & subito visum enecat.	Vertebrales & carotides arteriae disruptae.
— Curatur, sed denuo cum paralyssi dextri lateris recrudescit.	Aqua in cerebro.
— Hemiplegiam, cui gangrena succedit, post se trahit.	Aqua in crano & theca spinali.
— Prehendit virginem, cephalalgia cum convulsionibus, laborantem.	Aqua in cerebro.
— Excandescit febris & hemiplegia ingruit.	Aqua in ventriculis cerebri, vasa pia meningis sanguine infarcta, plexus chorioides hydatidosus.
— Derepente mulierem cephalalgia laborante invadit, & de medio tollit.	Serum in ventriculis cerebri. Gelatina obducuntur ejus vasa & sanguine fluidissimo turgent.
— Post se trahit paralysim dextri lateris, convulsiones sinistri & lapillos excernit æger.	Cerebrum putridum, renes lapillis fcatentes.
— Cum convulsionibus, singultu & cephalæa fese adjungit.	Aqua & sanguis effusa in cerebro.

Apoplexia.

mended, the patient survives the first attack, and no extravasation of blood or serum has happened in the brain, some, after remaining in

Symptomata morborum.

Apoplexia. Stipatur paralysi utriusque lateris.

— Cum resolutione brachii sinistri.

— Dextri.

— Cum resolutione dextri lateris.

— Inter usum aquarum mineralium plures encet.

— Quadragenarium et medio tollit.

— Arthriticus convulsionibus laborans, apoplexia tollitur.

— Bibacem prehendit.

— Ebrium.

— Scorbuticum jamdiu respiratione anhelosa, & capitidis gravitate laborantem, corripit.

Extispicia cadaverum.

Sanguis effusus intra substantiam cerebri & ejus vasa infarciens.

Ventriculi cerebri aqua cruenta scatent, & foveola intra substantiam cerebri insculpta, sanguine turget.

Aqua in cerebro.

Vasa encephali varicosa & sanguine infarcta.

Sanguis effusus intra substantiam cerebri.

Aqua in cranio.

Sanguis concretus in cerebro.

Sanguis effusus intra substantiam cerebri. Aqua in dextro ventriculo.

Duræ matris vasa aneurismatica; sanguis effusus in substantia cerebri.

Cerebrum inculpatum; pulmo ichore infarctus.

Apoplexia.

in a state of stupefaction for hours or days, recover, without any recollection, or scarce any, of what has happened.

The

Symptomata morborum.

Apoplexia. Post se corporis paralysim trahit.

— Apoplexiā subitanam prehendunt convulsiones.

— Febre stipatur.

— Sese adjungit febri intermitenti.

— Tollit quemdam fumo tabaci & masticationi nicotianæ familiarem.

— Ingruit inter prandium.

— *Succedanea.* Insolationi.

— Quam prehendunt paralis partis sinistræ & convulsio dextræ, succedit vertigini cum capitis dolore gravativo.

— Vertigini, octo post capit's contusiones.

— Doloribus sincipitis.

Extispicia cadaverum.

Ventriculi cerebri sanguine concreto turgent.

Venæ encephali flatu turbidæ; serum in ventriculis. Grumus sanguinis occurrebat in thalamis nervorum opticorum & in quarto ventriculo.

Sanguis concretus in ventriculis cerebri.

Viscera corporis præcipua corrupta.

Materies nigricans instar fuliginis in cranio.

Cranium & theca vertebralis aqua turgent.

Sanguis concretus in ventriculis cerebri, & hydatides in plexu choroideo.

Ventriculi cerebri aqua distenti.

Hydatides in cerebri substantia.

Sanguis intra substantiam cerebri.

Apoplexia.

The Diagnostics of the Apoplexy.

The sanguineous apoplexy is known by the redness and fulness in the face.

The

<i>Sympiomata morborum.</i>	<i>Exitspicia cadaverum:</i>
<i>Apoplexia succedanea. Vulneri infra orbitam inflicto.</i>	<i>Vulnus pertingebat cerebri ventriculum, & cranium sanguine turget.</i>
— Epilepsia.	<i>Cerebrum inflammatum & sanguis concretus in ventriculis cerebri.</i>
— Vertigini.	<i>Aqua in cerebro.</i>
— Bis vertigini succedit.	<i>Glandula pinealis ingens, substantia cerebri inculpata.</i>
— Item.	<i>Vasa cerebri & pulmonum sanguine turgida, sanguis effusus in substantiam cerebri.</i>
— Hemicraniae.	<i>Abscessus in cerebro.</i>
— Narium hæmorrhagiae & vertigini.	<i>Sanguis concretus in cerebri ventriculis.</i>
— Stipata immani ptyalismo, post assutos flores antimoniī.	<i>Materia mucosa in cerebro, pectore & stomacho.</i>
— Vertigini & tremori.	<i>Aqua in ventriculis cerebri, plexus choroides hydatidofus.</i>
— Post casum ab alto, sanguis per aures & os fluit, & dein sœvit apoplexia.	<i>Sanguis effusus in cerebrum; cranium fractum occurrit.</i>
— Item.	<i>Sanguis in ventriculis cerebri.</i>
— Post iustum oculo sinistro inflictum.	<i>Sanguis effusus in basi craniī: vasa oculi disrupta.</i>
— Post capitis dolorcs.	<i>Membranarum coalitio.</i>
— Item.	<i>Hydrocephalus.</i>
	<i>Apoplexia.</i>

The *serous* by a pale or livid color; but on this sign no certain dependence can be made: the constitution of the patient and the preceding causes ought to be considered particularly.

Apoplexy affects the whole body, and differs from *syncope*, this being attended with a small pulse and little respiration, and often with a great coldness.

It differs also from *soporosus*, *lethargic* fits, or sleepy indisposition, in a small degree only: in these the patient can be roused by irritation, but soon falls again to sleep, which does not happen in the apoplexy.

From the *convulsive catarrh* it differs; for

<i>Symptomata morborum.</i>	<i>Extispicia cadaverum.</i>
<i>Apoplexia succedanea.</i> Post capitis dolores.	Cerebrum putridum.
— Ictum in bregmate & occipit.	Lamina interna ossis coronalis fissa, aculeis cerebrum vellicat, externa erat illæsa.
Succedit ischuriæ & post se trahit hemiplegiam.	Tumor steatomatosus in abdome.
— Ventris intumescentia cum cruribus œdematosis.	Pulmones pleuræ adhærent.
— Cum convulsionibus post colicam.	Intestina inflammata.
— Paralysi cum difficultate spirandi.	Pulmones tuberculosi; pericardium aqua turget.

here

here is a great whistling or rattling in respiration, with some difficulty; a weak and slow pulse, and the patient retains his sensibility.

From the *epilepsy* it differs; for the body is convulsed in the epilepsy, but not in the apoplexy.

The *prognostics* of the apoplexy are well known; a warm sweat supervening is better than a cold sweat: it is easier to afford and expect relief when the patient can swallow remedies than when swallowing is totally impeded. In gouty patients, and those who have lived high and drink spirits, the disorder is more dangerous than amongst the more abstemious and moderate potatores of wine. Paralytic affections succeed often to the apoplexy; the patient's life is saved, but embittered with loss of the use of one side of the body or particular member.

The various Causes and Species of the Apoplexy.

The *apoplexia traumatica*, from wounds, contusions, fractures of the head, or concussions of the brain. This requires the art of surgery; but opium, as recommended by some, should ever be avoided, being contrary to any rational intentions of cure.

The *apoplexia temulenta*, from drunkenness. This

This is owing to the effects of strong liquors, of which patients recover by sleep, &c. Vinegar drink is proper. *Opium* has produced the same effects, when injudiciously given during lying-in, or under other circumstances. Lemon juice or vinegar are the best correctors of opium, which the people in the East experience, where this soporiferous drug is frequently used in immense quantities.

The *apoplexia hysterica*. This has been already treated of in the former part of the work ; is chiefly arising from wind in the stomach, œsophagus, &c. It is likewise called *vaporosa*, *hypochondriaca*, &c. Leguminous food, as pease soup or pudding, have produced this apoplexy, of which I have known instances, though not fatal.

Apoplexia arthritica. This is supposed to arise from a retrocession of the gouty matter. The earthy particles, joined with coagulable lymph, which float and predominate in the vessels, particularly in the venal system of arthritic patients, can easily be conceived capable of obstruction in muscles or membranes, in the stomach, diaphragm, pleura, in the meninges of the brain, &c. ; from hence what is called the gout in the head, stomach, chest, &c.

If the brain be overloaded, rupture of vessels
I i may

may happen : if the diaphragm, a cessation of breathing : if occasioning *polypi* in the large vessels, death may suddenly be the consequence, and constitute what is called the gouty apoplexy ; which disease I have seen several times.

In these cases, it must be observed, that though bleeding may be a prompt remedy during the paroxysm, yet gouty patients cannot bear large and repeated bleedings.

In the gouty apoplexy, diaphoretics, pediluvia of the muriatic acid, and tepid water, &c., should be prescribed *.

Apoplexia metastatica, owing to some introcession of scorbutic or other eruptions. This species I never recollect to have seen ; and having been constantly in practice for above thirty years, with as many opportunities of observation as most others of the profession, I consider it a very rare case ; perhaps the effects have not been attributed to just and true causes.

Apoplexia serosa, or *pituitosa*. This is the apoplexy which happens to patients of debilitated habits, with pallid countenances, in which serum predominates, and it is often succeeded by an hemiplegia. This is the species of

* See Treatise called the Gout alleviated by warm Baths of the muriatic Acid and tepid Water, &c.

apoplexy which scarcely admits bleeding above once ; cupping to the neck might with greater propriety be substituted.

If the patient should recover the first shock, and can swallow internal remedies ; antimonial diaphoretics, pediluvia, blisters, volatile vapors, are beneficial.

The pallor, debility, weak pulse, languid circulation, all intimate the probability of a stagnation or extravasation of serum in the brain, or lymph in the larger vessels, &c. ; therefore, under such circumstances of constitution, stimulants become more necessary than in any other species of apoplexy.

The *apoplexia febricosa* is that species of apoplexy which has sometimes happened in the commencement of intermittent or remittent fevers : the primary cause being the force of the febrile powers on the vascular system, from which death has been the consequence : bleeding and some warm stimulant are necessary, though the former, perhaps, is contra-indicated by the nature of the intermittent or low remittent fevers, which seldom require or suffer venæsection, though practised, as I have observed, at Rome and other parts of Italy in the hospitals, by which numbers of the patients are lost. The exigence of the case, in the febrile apoplexy, alone can countenance bleed-

I i z ing

ing either in intermittent or low remitting fevers.

Apoplexia polyposa. This arises from polypi in the vessels either of the lungs or heart, obstructing, or totally impeding, the circulation:

It follows palpitation of the heart, faintings, difficult respiration, vibration of the vessels in the neck, intermittent or an irregular pulse, which sometimes stops for a moment and then beats again. It is most common to the corpulent, with a viscid texture of blood, from the age of forty to sixty-five; to the studious; to those who live high, and use little exercise; to spirit drinkers; to those who indulge sleep, in cold climates, after dinner. In hot climates this is necessary and useful.

Whenever this disease is suspected, bleeding, if not contra-indicated, should be occasionally repeated. Internally, camphor, nitre, sal soda, volatile alkali, lime water, saponaceous preparations, neutralised salts, sea air, &c., may be prescribed, according to circumstances.

Apoplexia suspiriosa. This has been mentioned by *D. Cuffon*, a disease observed amongst infants, with a suspitious or sighing expiration, deep sleep, the face pallid, the body frigid and turgid.

Bleeding was avoided; emetics, cathartics, blisters

blisters behind the ears, commonly proved a cure. Emetics are, however, an exceptionable practice in all fulnesses of the vessels in the brain, as there will be a risk of ruptures and extravasation of fluids.

Apoplexia atrabiliaria. This is accompanied commonly with the jaundice; the medullary substance of the brain has been found of a brown or darkish color. As this originates in a diseased liver, and is most commonly the effect of spirit drinking, the primary disease should first be removed. I have cured the jaundice, in numerous instances, by a quarter of a grain of calomel night and morning, joined with three grains of *pilula Ruci*, and about two scruples or a drachm of the *sal diureticus* in *infus. amar.* and *tinctura amara*, two hours before dinner and supper, or oftener.

Apoplexia inflammatoria, from inflammation of the membranes of the brain in plethoric, robust habits.

Large bleedings, effectual evacuations by purging, sweating, and a strict antiphlogistic regimen, with nitre, camphor, antimonial solution, so as never to vomit, bid the fairest to relieve or cure this highly dangerous disease.

Blisters, as they stimulate, may be improper; emetics would be highly dangerous. From dissections I have had great reason to conclude,

I i 3 that

that emetics have caused death in apoplexy, by forcing an increase of blood to the head, and checking the return of blood in the veins, from the distention and force of the œsophagus, lungs, diaphragm, pectoral, abdominal, and cervical muscles, &c.

Apoplexia mephitica. This species arises from the fumes of charcoal, vapor of arsenic, mercury, lead, poisons, &c., mephitic air, &c. The treatment of which must depend on the natural or accidental state of the constitution of the patient attacked. Indeed all rational practice in medicine should be more applied to individual habits, with all their variety, than is generally practised. Pure air, bleeding, long-continued frictions, with warm flannels, &c., as have been recommended in other cases, may be applied to this species, of which enough has been already delivered.

Apoplexia verminosa. Apoplexy has arisen from worms. Wherever this is suspected, the remedies recommended in worm cases may be prescribed. Jalap and sal soda are proper; the first will evacuate, the second dislodge them, provided there be no contra-indication to the use of fossile alkali, &c., which has something caustical and pungent in its nature, and is improper when the stomach is not well defended by mucus.

It may be remarked, that when the apoplexy invades suddenly, and like to a stroke of lightning, it is called a sudden strong fit; when preceded by vertigo, an appearance of flies before the eyes, loss of memory, gnashing of teeth, diminished motion of the tongue, stammering, hesitation, or slowness of speech, an obtuse pain in the head, tumefaction or inflation of the face, sleepiness after food, or forgetfulness in conversation, spontaneous tears, stupor, or numbness of the arms or legs, with coldness, it is called a slow or lighter fit.

The whole treatment, in the different species of apoplexy, may be reduced to a few general heads, which are :

Bleeding should be performed as soon as possible; for it is at the beginning of the apoplectic fit that the vessels of the brain are most turgid, the blood rushes with the greatest violence, and the vessels rupture, pouring out their fluids; stupor and insensibility are the consequences.

When arising from plethora sufficient to overcome the circulating powers of the heart and arteries, large bleedings, evacuations by urine, sweats, purging, and low diet, are necessary.

When originating from an abundance of coagulable lymph, or earthy particles, as in the arthritic cases, in which the powers of the heart

and arteries scarcely can push on the blood in its channels; bleeding in these cases is the promptest remedy during the paroxysm, though not always successful, nor can it be repeated often without greatly debilitating the habit. It should, however, not be omitted, especially during the paroxysm or commencement of the disease. I have prescribed it successfully in patients above seventy years old. Afterwards, the application of leeches, cupping, caustics behind the ears, diaphoretics, blisters to the head, finapisms, volatiles, &c., are proper.

When the apoplexy happens to persons where the blood is very serous, or its texture broken down, as in the hydropic and very pallid and debilitated. The muscular powers of the heart and arteries seem so much debilitated, that although a bleeding may be proper in the paroxysm to remove, if possible, spasm, yet such patients bear least of all a repetition of that operation. These cases require cupping in the neck, stimulants, as blisters, finapisms, volatiles, cordials, and whatever can raise the *vis viva*, or give vigor and tone to the circulating powers.

Emetics in all cases of apoplexy should be avoided, which I find is likewise the opinion of that experienced and rational physician, the learned Dr. Cullen,

The Prevention of the Return of Apoplexy.

This is to be attended to after the disorder has been once removed, and should depend on whatever cause gave rise to the apoplexy, and the constitution of patients. In all cases, however, costiveness should be prevented by eccoprotics; perspiration should be excited at night. The body, and particularly the feet, should be kept warm. Pediluvia, with warm water and spiritus salis marini, as recommended in my Treatise on the Gout, should be used.

Gentle exercise may be directed, and all violent passions of the mind avoided. The Jersey shirt is excellent for keeping the body warm in this changeable climate, particularly from autumn to spring, or commencement of summer.

As these disorders are most common in autumn, winter, and beginning of spring, so should the afflicted attend to these seasons, by gently evacuating whatever is redundant, and avoiding every possibility of receiving cold by putting on the winter clothes early.

No ligatures should be tight about the neck, as the shirt collar, stock, or neck-cloth; nor should the buckle or clasp be used in the back part of the neck, as the occipital vein is connected with the internal vessels of the head,

and

and its compression might obstruct the return of the blood, which has caused apoplexy *.

Formulæ

* *Singular case in which ligatures on the neck produced apoplexy.*

Some years ago I attended a gentleman of considerable fortune, and well known in the great world, who was subject to the sanguineous apoplexy. I was in or near his house at the commencement of four or five different fits. He was struck down suddenly, snored deeply, became totally insensible, and the blood flowed with such rapidity and force through the external and internal carotids, that in the neck, on each side, although the patient was corpulent, the pulsations were so evident, that the blood seemed to be forced up by spurts to the head, as if by the force of a pump. The face became first very red, then inflated to a great degree, and livid; the lips turgid; the eyes stared wildly, with a dilatation of the pupils, and distentions of the vessels of the conjunctiva. No case could indicate more decidedly the necessity of a prompt and large bleeding; therefore breaking through the medical etiquette, which considers it mean for a physician to operate, although it has been found useful on many occasions. I always, without waiting for a surgeon, bled him, and extracted at least two or three pounds of blood. On this copious evacuation he began to sneeze; afterward he remained quiet for eighteen, twenty-four, or thirty-six hours; during which time clysters, purges, and diaphoreties, were given, and frictions used. He then became perfectly sensible, but could never recollect any thing of what had passed, or the length of time he had been affected.

In such a case, the only probable mode of preventing a return of the disorder was to observe a strict regimen, which this patient would never comply with, preferring death to re-

frictions

Formulæ proper for the soporiferous Diseases and Apoplexy.

In floridity and plethora, during the commencement, Morgagnus recommends bleeding in the occipital vein; but this is difficult, and often impracticable, though very judicious, if possible.

Mittatur sanguis ad ʒxiv. vel ad ʒxx. e vena jugulari vel e brachio.

No. 102. R. Decoct. commun. pro clyster. ʒx.

Sal. amar. cathart. ʒvj.

Ol. olivar. ʒij. f. enema statim injiciendum, repetendumque pro re nata.

If

strictions in diet. I contrived to constantly evacuate the feces by laxatives, and he lived for years with repeated attacks.

There was a singularity in this gentleman's character; for, though above sixty, he wished to appear young, fresh colored, and used some improper means for the purpose.

I had observed, that in the morning he appeared often relaxed, and his countenance was extenuated, and rather pallid or fallow; but when dressed he seemed florid, his skin became smooth, and he appeared much younger and more healthful.

From these circumstances I suspected art was used, and my suggestions were, by ocular demonstration, verified; for a large thick tape in the back of his wig was drawn very tight, and tied in a knot, by which the sides of the wig closely compressed the temples and face, and the tape ligature acted powerfully on the occipital veins, and by the tightness of the stock the jugulars were also impeded; hence the turgency of the blood

If the patient's deglutition is not altogether impeded, to thoroughly evacuate the intestines,

No. 103. Rx. Infus. sen. 3vss,

Tinct. jalap. 3ss.

Pulv. crem. tart. 3j. solve, & f. mistura,
cujus sumat coch. ij. saepe, donec alvus
bene respondeat.

Or,

No. 104. Rx. Fol. sen. 3ijj. coque in

Aq. pur. 3v. ad 3iv.

Tart. emet. gr. ij.

Sal. Rupell. 3ss. solve, & f. mistura, cu-
jus sumat coch.; quavis horâ donec intes-
tina evacuentur.

Afterwards, to promote a diaphoresis; which

blood vessels in the face; hence the floridity and youthful appearance. The impression of the tape was so deep in the nape of the neck, that a finger might be buried in the furrow. Ligatures were likewise drawn very tight about the legs below the knees, in order to swell the calves of the legs. What was most dangerous, was impeding the return of the blood towards the vena cava. On the discovery, I seriously intimated his dangerous practices, and accounted for his apoplectic fits from these evident facts; but the patient was highly displeased; yet, in a certain degree, he complied with my request, not to repeat the ligatures.

Some time after this he was suddenly taken with an apoplectic fit in his carriage some distance from home. A physician was called of very high reputation, but timid in his practice even in desperate cases: he neglected bleeding, or saw the patient too late, and death was, in a few hours, the consequence.

should

should be continued during the attempts to cure, without increasing heat,

No. 105. Rx. Tart. emet. gr. ij. solve in
Aq. pur. 3j. f. solutio fortior antimonialis.

No. 106. Rx. Camphor. gr. viij.
Amygdal. decorticar. No. IV.
Sacch. alb. 3j. tere simul.
deinde adde Aq. pur. 3xv.
Sp. Minder. 3iij.
Solutio. antimon. fort. 3j. f. hauitus, qua-
ta quaque horâ sumendus.

The feet and legs are to be kept very warm.

This plan of evacuating by bleeding, purging, and perspiration, has cured several apoplectic cases, under my own immediate direction, where plethora abounded.

If coagulable lymph or serum previously predominate, and in all cases of pallor and debility, after the first bleeding, stimulants, brisk frictions, volatiles, and cordials, are proper.

Applicentur emplastra vesicatoria raso capiti, nuchæ,
scapulis, brachiis vel femoribus & finapismi
plantis pedum.

No. 107. Rx. Infus. sen. 3fss.
Tinct. sacr. 3fss. f. hauitus statim sumendus.

No. 108. Rx. Decoct. commun. pro clyster. 3vij.
Tinct. sacr.
Ol. olivar. 3ij. f. enema, pro re nata in-
jiciendum.

Or,

Or,

No. 109. Rx. Decoct. commun. pro clyster. 3vij.

Sapon. 3iss. solve,

dein adde Tinct. sacr. 3ij. f. enema.

No. 110. Rx. Julep. e camphor. 3iss.

Tinct. serpent. virg. 3ij.

Solution. antimon. fort. 3j. M. f. haustus,

quarta vel sexta quaque horâ sumendus,
post evacuationem alvi.

No. 111. Rx. Sal. c. c. 3j. solve in

Julep. e camphor. 3vij.

dein adde Aq. nucis mosch. 3j.

Confect. cardiac. 3iss. f. mistura, cujus capiat coch. ij. ad libitum.

Light diet and warm drinks, in small quantities, to prevent accumulation, are proper in all instances of apoplexy; but every thing in the least flatulent should be avoided.

After the paroxysm, alteratives, bark, tonics, steel preparations, &c., are frequently useful, by invigorating the solids, and removing lymphatic obstruction.

The consequences of apoplexy, which are often paralytic affections, shall next be considered.

What has been likewise said on soporiferous disorders, dilatations of vessels of the brain in madness, &c., may explain many phenomena observable in the apoplexy*; which disorder,

* See Treatise on Madness and Suicide.

however,

however, notwithstanding the utmost skill of medicine, often proves fatal, or leaves patients in a state of debility, from which they never perfectly recover, or are liable, without great attention, to relapse and sudden death.

Paralysis, or Palsy.

The palsy is a great diminution; or total loss of sense or motion, chiefly affecting muscular or nervous parts.

When the affection is not violent, it is called *paresis*.

Aneisthesia, is a momentary insensibility, or rather numbness, with a sense of formication, or a sleepiness of membranes and deficiency of sense.

Arthemia, is motion only deficient.

The palsy, from the parts affected, occasions various defects.

In the eyes, blindness, by diseased retina or pupil.

In the ears, deafness.

In the uvula, relaxation.

The paralysis of the throat and œsophagus is called *paralytidos*.

In the tongue, a faltering deprivation or loss of speech.

In

In the muscles of the face, distortion of the mouth, or difficulty in manducation.

In the lungs, principally suffocation.

In the heart, sudden death.

In the stomach, vomiting, or total relaxation, so that the food or drink pass indigested.

In the intestines and *sphincter ani*, constant fluxes, or *procidentia ani*.

In the urinary bladder, incontinence of urine, or a total suppression.

In the ligaments of the uterus, a prolapsus uteri.

In the erectors of the penis, impotency.

In the extremities, either arms or legs, a difficulty in walking, or the entire loss of their use.

When all the parts of the body below the head are affected, the palsy is called *paraplegia*; when one side is struck, *hemiplegia*. These last commonly succeed to an apoplexy. They both depend on a morbid affection of brain and nervous influence; but the partial palsies on the ganglions or branches of nerves more distant from the brain or medullary spine.

In all cases the nervous influence is obtunded or obstructed; for the will can no longer command muscles destined to action when they are under the indisposition of paralytic affections.

The

The immediate causes are effusions of blood, serum, &c., in the ventricles of the brain; compressions of the brain, nerves, or ganglions, by which the free and natural intercourse of the nervous powers of certain parts are partially or totally interrupted: in the former, loss of action; in the latter, loss of sense, and often an atrophy or wasting of the member is perceived*.

The

* DISSECTIONS AFTER DEATH.

Symptomata morborum.

Paralysis. Puerum titubantem lingua balbutientem invadit & cui se adjungit capitis intumescentia.

Lateris dextri, subito exoritur cum balbutie, & spirandi difficultate lethali dein subsequente.

Sinistri in apoplexiā degenerat.

Inferiorum artuum quinto mense graviditatis mulierem corripit.

Brachii dextri cui succedit dolor capitis.

Hemiplegia lateris sinistri cum tussi & spirandi difficultate.

Extispicia cadaverum.

Hydrocephalus.

Ulcus in utroque ventriculo cerebri & abscessus pulmonis.

Ventriculi sinistri cavitas erosa & infarcta concretionibus polyposis.

Uterus clausus fœtum mortuum recondit.

Aqua in ventriculis cerebri.

Substantia encephali putrida.

The remoter causes are :

i. A nervous irritable habit of mind or body.

ii. Ple-

Symptomata morborum.

Hemiplegia laborans & cui incassum adhibita fuit machina electrica, subito enecatur.

Sinistri lateris & convulsio dextri, febrem exacerbantem & brevi lethalem sibi adjungunt.

Cum lethargo se se adjungit fluxui purulento e naribus.

Hemiplegia sinistri lateris, cum convolutionibus dextri lateris, invadunt subito septuaginarium, & brevi enecant.

Extremitatum inferiorum stupor cum caro & cardialgia, &c.

Succedanea. Dolori vago pectoris.

Insultui apoplectico & sibi adjungit summam spirandi difficultatem.

Volvulo.

Dolori capitis gravativo circa radicem nasi cum fluxu puris e naribus, & apoplexiā accersit.

Extispicia cadaverum.

Sanguis & aqua in ventriculis cerebri.

Pia meninx purulenta in parte dextra, & vasa encephali sanguine turgida.

Per foramen e cerebro fluebat pus.

Sanguis concretus inter dextrum cerebri lobum & duram meningem.

Hydrops cerebri & medullæ spinalis.

Aqua in thorace & cerebrum putridum.

Pulmones tuberculosi; pericardium aqua turget.

Hepar ingens, induratum; colluvies viridescens in ventriculo.

Pus in ventriculis cerebri nares appellebat.

Vulneri

ii. Plenitude from too free diet, or Bacchalian excesses.

iii. The free use of narcotics, as opium, &c.

iv. Debility in the moving powers, and vis-

Symptomata morborum.

Vulneri exiguo occipiti inflato.

Emetico propinato paralysis artuum superiorum & inferiorum.

Hemiplegia lateris dextri succedit oculorum convulsioni, dein sibi convolutionem brachii dextri accersit.

Apoplexia & interea penis gangrena corripitur.

Convulsionibus & surditati post cephalalgiam.

Stranguriæ cum dolore crurum.

Apoplexiæ.

Paralysis sinistræ partis & convulsio dextri, vertigini & capitidis dolori gravativo succidunt.

Dextri lateris & convulsio sinistri cum excretione calculorum per vias urinæ.

Excipit capitidis contusio nem.

Extispicia cadaverum:

Pus inter pixidem osseam & cerebri involucrum.

Pylorus scirrhosus.

Aqua & pus in ventriculis stagnant.

Pulmo dexter scirrhosus, aqua in latere sinistro pectoris & in cavitate cranii.

Aqua in cerebri ventriculo sinistro & plexus choroideus scirrhosus.

Calculus in vesica urinaria; aqua in cerebro & plexus choroideus hydatidosus.

Aqua in cerebro.

Sanguinolenta colluvies in ventriculis cerebri.

Cerebrum putre, renes lapillis infarcti.

Abscessus cerebri in parte aduersa loco percussio.

cidity, or a tendency to viscidity, in the fluids, which humors coagulating, or accumulating in the minutest vessels accompanying nerves, or their expansions, in their passage from the medullary spine, or in any other part, compress the medulla of nerves, proceeding to muscles, &c.: hence numbness, or an impaired sensibility; hence loss of sense and motion. Tumors compressing nerves will produce the same effect.

v. Diseases of the stomach and other viscera have induced apoplexy, palsy, &c. Polypi of vessels, &c., have produced the same diseases.

vi. When coldness of the limb is accompanied with loss of sense and motion, then the artery is either compressed, or its fluid otherwise impeded: this I have often seen in cancerous tumors fixed in the axilla, or in aneurisms of the subclavian artery, &c.

The prevention of palsy should be similar to the modes recommended in the apoplexy.

The *diagnostic*. It differs from the chronic rheumatism and gout; because rheumatic disorders are painful, and always in muscles; the gout in joints; but the palsy is not painful, and the arms or legs hang loosely dangling, as if inanimate, or with dragging and difficulty support the patient.

Prognostics.

Prognostics. The disorder in aged persons is very difficult of cure, and frequently incurable.

In the feet or legs it is oftener cured, than when in the arms.

An atrophy or wasting of the member is no unfrequent consequence; œdematos swellings, &c., if these last suddenly subside, it is said instant death follows: this abundance of practice does not justify me in acceding to.

The disorder often remains from one to even thirty years, without proving fatal; so that when it succeeds an apoplexy, life is supposed to be preserved at the expence of the loss of some member, or members. The radical cure is difficult, and frequently impracticable; but should always be attempted.

When the palsy is merely cutaneous, some cases of which I have seen, it is then seated in the *rete mucosum*, nervous expansions, or papillæ of nerves destined for the organs of feeling; this is not dangerous, and is frequently cured.

Pain, sensation, tremor, heat, &c., are favorable symptoms; a total insensibility the reverse.

The *cure* consists in removing the different causes.

I. In liberating the brain, nerves, or their ganglions, of the causes of compression.

This indication principally includes the remedies of the diaphoretic class prescribed for the apoplexy, blisters, &c.

II. In restoring a vivid circulation where languor and a debility of the solids exist.

This may be attempted by tonics, alternatives, frictions of a volatile nature; the treatment will be well understood by applying the reasoning and remedies recommended in convulsive diseases and apoplexy.

Stimulants are sometimes dangerous, especially in distentions of the vessels of the brain, or accumulations in those parts, as a rupture of vessels might be the consequence of their application.

A gentle diaphoresis, without increasing heat, which antimonials, joined with volatile alkalines neutralised, produce, is useful.

Volatiles, antimonials, and strong solutions of camphor, blisters, sinapisms, and frictions, pédiluvia of salt and tepid water; or, instead of volatile alkalies, the neutralised preparations are necessary.

It must be remarked, when the palsy is the consequence of the sanguineous apoplexy; that repeated

repeated bleeding may become necessary, with diaphoretics, that neither heat nor stimulate; but in the palsy, succeeding to great nervous debility, with a serous state of the blood, pallor, &c., a warmer regimen and remedies are more likely to be beneficial, or tonics.

If steel preparations be used, and affect the head, they are improper: bark, vitriolic acid, Hoffman's anodyne liquor, &c., may then be preferable.

The *formulæ* for treating the palsy, in the plethoric and florid, may be similar to the following, whether hemiplegia or paraplegia:

Sanguis mittendus pro re nata.

No. 112. Rx. Infus. sen. 3ij.

Tart. solub. 3ij. f. haustus statim sumendus.

Enema commune injiciendum pro re nata.

No. 113. Rx. Tart. emet. gr. ij.

Aq. pur. 3j. f. solutio antimonialis fortior.

No. 114. Rx. Camphor. gr. viij.

Amygdal. decort. No. IV.

Sacchar. alb. 3j. tere simul
dein adde Aq. pur. 3x.

Sp. Minder. 3v.

Solutio antimonialis fort. 3j. f. haustus
quarta vel sexta quaque horâ sumen-
dus*.

The

* It may be remarked, that the camphor julep, or what is now called the *mistura camphora*, is a very inefficacious prep-

The feet and legs should be covered with worsted stockings, or flannel, and a gentle dia-phoresis, promoted by proper warm drinks, given, in small quantities, at intervals.

Frictions should be used, and volatile liniments, not on the parts where the paraly sis appears, as injudiciously recommended by medical writers, and inconsiderately practised, but as near as possible to the situation from whence the nerve or nerves of the part affected originate ; for here remedies are most likely to prove beneficial.

We should always direct, as much as possible, our remedies to the cause, not to the effect, of a disease ; anatomy, physiology, pathology, reflection, and sound judgment, will be, for this purpose, the surest guides.

Electricity, which has, in many instances, assisted the cure of paralytic affections, should always be applied to the origins of the nerves, which transmit their active powers of motion and sensibility ; not to the parts where sensibility is destroyed : the stream should be drawn through from the original trunk or principal nerve to its most distant divisions and ra-

ration of camphor, as the finest and most volatile parts of the camphor escape by the addition of hot water : the water likewise takes but a small portion of the camphor, as may be seen by what remains in the strainer.

mifications.

mifications. The electrical shock is improper; drawing sparks, or diffusing the electrical stream, are more eligible in the palsy.

The *formulæ* for the debilitated, nervous, and pallid, should consist of more warming and stimulating remedies.

Applicentur emplastra vesicatoria nuchæ, scapulis,
pone aures, brachiis, femoribus vel pedibus.

Sinapismi plantis pedum admoveantur.

Instead of volatile alkalines neutralised, sal succini, volat. ammoniac. ad gr. v. dissolved in the camphor draughts, are proper; and a mixture with cordial confection, volatile alkalies, &c.

No. 115. Rx. Aq. cinnam. simp. 3vj.

Confect. cardiac. 5ijs.

Sal. c. c. gr. xv. M. f. mistura, cuius summat coch. ij. ad libitum.

No. 116. Rx. Aq. cinnam. simp. 3ijs.

Tinct. valerian, volat.

Solutionis antimon. fort. aa 3ijs. syr. simp.
q. f. f. haustus sexta quaque horâ sumendus.

No. 117. Rx. Farin. avenac. 1bfs.

Sinap. pulv. 1bfs.

Acet. commun. q. f. f. massa, applicanda
plantis pedum mane ac nocte, renovan-
daque bis vel ter de die.

In cold leucophlegmatic habits, the *oleum anisi* has proved beneficial.

No. 118. Rx. Ol. anisi 3j. ad 3fss. vel 3ij.

Mucilag. gummin. arab. 3j.

Sacchar. alb. 3fss. M. deinde adde paulatin.

Aq. pur. 3ij. f. haustus, quarta vel sexta
queaque horâ sumendus.

If still a more powerful plan may be thought expedient, Dr. James's powder, as a diaphoretic, or the following may be prescribed :

No. 119. Rx. Pulv. antimon. gr. xvij.

Conf. roſar. q. f. f. pilulæ No. IV. qua-
rum sumat j. sextâ quâque horâ superbi-
bendo coch. iiiij. miſturæ ſequentis.

No. 120. Rx. Aq. menth. vulg. ſimp. 3vj.

— fp. 3ij.

Confect. cardiac. 3ij.

Sal. ammon. volat. 3j. ſolve & f. miſ-
tura.

Frictions should be directed to be applied all down the vertebræ from the head to the os coccygis, and penetrating volatile liniments may be used.

No. 121. Rx. Ol. amygdal. dulc. 3iv.

— terebinth. æther. 3fss.

Aq. pur. 3j..

Sp. c. c. 3fss. f. linimentum, parum cujuſ
applicetur spinæ colli, dorsi, lumborum-
que cum affidua frictione.

Plasters of the *emplastrum simplex cum gummis*
may

may be placed on or near the part of the nerve from whence the palsy takes its source, which may assist not only by its warmth, but likewise lightly as a stimulant: any other warm plaster may likewise be used.

The directions for the palsy already given are chiefly intended for that disease when recent; but it frequently happens that it continues many years, which the following explanation and *rationale* of the causes and effects may elucidate:

i. In the *paraplegia*, the origin of all the nerves passing through the bony perforations of the vertebræ of the neck, dorsal and lumbar spine, are relaxed, or compressed lightly, as with a ligature; for if strongly compressed, a total numbness or insensibility would follow.

ii. The nervous powers that are destined to the vital and natural functions, as the heart and stomach, &c., are not much impaired; for the blood circulates, and the stomach receives and digests, the intestines prepare and absorb chyle, and evacuate the feces. Patients live in bed many years with the loss of the use of all the muscular parts externally below the head, eat, drink, sleep, &c., and preserve their senses entire.

iii. In the *hemiplegia*, in which one side is only affected, the origin of the nerves in the brain, or trunks passing through the bony apertures

tures to the muscles of that side, are compressed or relaxed.

iv. When the arm or leg is paralytic, whether from the shoulder or thigh, from the elbow or knee, from the wrists or ankles, to the fingers or toes, it may be rationally concluded that the disorder is occasioned by the compression or relaxation of the tunics of nerves, which send off branches to those distinct parts, and the seat of the cause of palsy is in the superior parts, *i. e.* in the part of the nerve above the apparently affected part.

v. The causes of the palsy are not to be sought for, therefore, in the part merely paralytic, in which the morbid effects only exist, but in the part of the nerve nearer the brain or medullary spine, which, in descension to the diseased part, is interrupted by compression or relaxation of the coats or cellular intervening structure. It is necessary, therefore, to reflect on the principal nerves and ganglions, their distribution to muscular parts, ligaments, &c., in what part the nervous interruption is seated, or many remedies will be very improperly applied to paralytic affections: this has always been, and is now a striking defect to intelligent minds in the common treatment of the palsy, and is perhaps a principal cause of the ill success
which

which medicine experiences in attempting the cure of this distressing disorder when recent.

vi. One general rule to ascertain where the nerve is seated, that is interrupted in its office, and which transmits its effects to remoter parts, is, to reflect on the distribution of the arteries, veins, and lymphatics; for the principal nerves ever accompany the sanguiferous and lymphatic vessels.

1. What muscle or muscles, tendons, or ligaments, are affected, which occasion the lameness.

2. What nerve or nerves extend their influence to those muscles, or ligaments, &c., affected with palsy.

3. What is the anatomical direction, whether in the origin, ventricle, or towards the insertion of muscles, the arteries, nerves, and lymphatics, penetrate the moving parts; or whether preceding nerves and arteries expend part of their ramifications to the aponeuroses, tendons, nervous expansions, ligaments, or *tela cellulosa*, in the interstices of muscles, or through all the muscular fibres. These considerations have never yet been accurately attended to, and they require more knowledge in anatomy than any physician generally acquires in the common defective modes of education; he should industriously dissect, with his own hands, many subjects,

subjects, for the arteries, veins, lymphatics, nerves, muscles, and ligaments ; and by this means so strongly impress on his mind an anatomical knowledge, never to be effaced, but continually apply it to rational practice in the cure of diseases.

The palsy of any member may arise from many causes.

1. From a relaxation in the cellular structure composing the tunics of nerves, or which pass through all the divisions and sub-divisions of the *fasciculi* or nervous filaments constituting the nerve. In this case, a laxer coherence of particles, forming the minutest fibres and lamina, may be conceived, with a serous and less coherence in the blood. This may be illustrated by the anasarcous dropsy, where a serous state of the blood first relaxes the fibres composing the cellular structure of human body, next the enlargement of the cells, and reception of serum instead of adeps, tumor and coldness follow in proportion to the absence or loss of red particles in the blood.

2. An inspissation or coagulation of the fluids contained in the minutest vessels or cells of the *tela cellulosa*, not only constituting the tunics or vagina of nerves, but likewise penetrating all through between every most minute nervous filament.

3. A third cause may be rationally conceived to exist in the coagulation or congestion of the oleaginous substance surrounding the vagina of nerves as they pass through the bony canals from the medullary spine.

In laxity, the deficiency of arterial action seems to weaken or lessen the nervous energy or powers: thus the progress of the nervous influence, whatever it may be, is prevented, diminished, or obtunded. In the minutest cells are deposited and collected an over-abundance of aërial fluids or vapor; which, instead of circulating and continually passing from the mouths of the finest arteries into the cells, and from the cells into the veins, accumulate in the cells themselves, as in the anasarcaous dropsy: hence laxity, debility, increase of serum, coldness, weakened action in the arteries, flaccidity, &c.

In inspissation of the finer fluids, it is easy to conceive a total obstruction and resistance to the nervous influence: the effect is then similar to a ligature on a nerve or nerves, which, by compressing the medullary substance, renders all the parts below destined to voluntary action no longer able to obey the command of the will. In the distorted spine, if the medullary substance be compressed, the inferior extremities become paralytic: the same happens from

from similar compression of the medullary substance of nerves, whether artificially, or arising from disease, tumor, stricture, &c.

The coagulation or congestion of the adeps in the bony channels emerging from the spine, may certainly produce similar effects.

Tumors of the lymphatic glands or vessels may likewise compress nerves, and occasion a paraly sis : this happens in the axilla, in the direction of the iliac vessels within the pelvis, inguen, popliteal vessels, which dissections have manifested *.

It should be remarked, that in these assertions, not only what is obvious to the eye, but likewise to the magnifying powers of the microscope, and the chemical changes of the aërial and other human fluids, are received into the *rationale* of paralytic affections.

In any defect of the arterial circulation, such as a dilatation or aneurism of the coats of arteries, to which the large arteries, as the aorta, subclavian artery, &c., are subject ; coldness and debility, atrophy, and a loss of action in the muscles, which receive their branches from either the subclavian or axillary artery, are ob-

* See the plate of the lymphatic system, with the glands, *vasa inferentia* and *efferentia* of the whole body, in the *Schola Medicinae universalis nova*.

ferved :

served: transfer these effects, by analogical reasoning, to the minutest arteries accompanying the nervous tunics and cellular interstices and cavities, and then insensibility of parts or diminished powers may be easily conceived, or obstructed nervous influence from atonia, &c.

From these and similar reasons and phenomena, the difficulty of curing paralytic diseases will be evident, which arises,

i. In the deep seat of the disease, when in the encephalon, or nerves proceeding from the spine.

ii. The difficulty of applying remedies, although the disease and its seat may be well known, whether it arises from laxity in the nerves or tunics, compression from inspissated fluids, lymphatic or other tumors.

iii. The impatience common to the afflicted with the palsy, who not knowing the difficulties medicine has to encounter, nor the necessity of a long-continued plan of cure, however judiciously arranged, patients oftener deliver themselves to despair, than resolutely persevere in curative attempts.

After the most rational practice in attempting the cure of palsy, the physician and patient are not unfrequently disappointed; yet,

L 1 discouraging

discouraging as these circumstances are, the cure is sometimes effected, and the use of paralytic limbs, which had long been rendered useless, restored.

The palsy, which is common to painters in the hands and arms, I have often cured in the following mode :

Plummer's pill has been given from one to two grains three times a day, with the camphorated solution, for many months.

The hands and arms have been bathed in a bath composed of tepid decoction of horseradish and common salt two or three times a day, with friction : the bath covered the elbows, and was continued half an hour or more *bis de die*.

The intestines were opened occasionally by a mild and warm laxative.

In tremors and paralytic affections from the abuse of mercury; lac sulphur and magnesia first, and tonics afterwards, have removed the disorder.

In paralytic affections arising from an obstructed lymphatic system, mineral alteratives are proper, with volatiles, unless there be heat or plethora; under which circumstances neutralised salts may be proper, with penetrating alteratives, provided they agree with the stomach.

In

In cases where an inspissation of the adeps surrounding the nervous tunics or fluids in the *tela cellulosa* is supposed, warm bathing at Bath is proper, and antimonials, in small doses, united to cinnabar, long continued, particularly in warm weather.

Four things are necessary in producing the desired effects, when inspissated or condensed fluids are the causes of palsy.

1. A reliquefaction of the inspissated fluids or adeps.
2. An absorption of the redissolved fluids or adeps which had been accumulated.
3. A restoration of the relaxed parts, whether muscles, tendons, or ligaments, after the discussion of the attenuated fluids.
4. The retransmission of the nervous influence through the formerly obstructed parts, whether muscles, tendons, aponeuroses, ligaments, &c. and all through to the different nerves, continued in various distributions of the paralytic member or members.

It is rational to suppose, that the nervous influence will again pass easier in muscles than tendons, in tendons than in ligaments; therefore less success is to be expected when the ligaments are relaxed, &c.

The absorption of the fluids can only be ex-
- L 1 2 pected

pected when the laminæ forming the very minute cells are not destroyed, nor the absorbing powers, or vessels obliterated.

The restoration of the relaxed parts, and the free access of the nervous influence through the part diseased to all its distant nervous filaments, depend on the state of the nerves, and their aptness to receive their necessary impressions, or powers.

If the nervous filaments, and their vessels, going to muscles, tendons, and ligaments, be withered, shrunk, or obliterated, which most probably happens when an atrophy or wasting of the limb is the consequence of palsy, in which the cells of the cellular structure frequently coalesce, then no great expectation of success can be formed. If, on the contrary, the nerves and their filaments are pervious to their former influence, and circulate arterial or aërial cellulose fluids, then success may crown rational attempts to relieve the palsy.

Internally, for these purposes, remedies which penetrate, remove obstruction, and act with vigor on the vascular system, are proper; such are antimonials, in small doses, repeated at proper distances, joined with light mercurials, as alteratives; volatiles, antispasmodics, and gen-

tle stimulants; baths composed of decoction of horse-radish and volatile salts, frictions with mustard, and the electric stream, may be tried; which, if even unsuccessful, the patient will not be rendered worse by such attempts. It should, however, be remarked, that mineral preparations cannot always be administered to the paralytic, as they occasion tremors, &c., in which instances they are improper.

In the palsy of different parts, the cure, in general, should be similar to the foregoing.

In the muscles of the face, electricity, volatile liniments, and tonics, have proved successful.

In the palsy of the eyelid, cold bathing on the center of the eyebrow, frictions, and volatiles, have cured the disorder.

In the *gutta serena* I have succeeded by giving mineral alteratives internally; fumigations of cinnabar have been received up the nose, or in the *canthus internus* of the eye; a lotion composed of one grain of *merc. corros. sub.* to eight ounces of *aq. rofar.* was used with gentle friction.

These methods, and a dry diet, have removed impediments, the forerunners of *gutta serena*; and

and in some few instances sight has been restored where patients were afflicted with total blindness.

The palsy of the tongue has been removed by chewing ginger, pellitory root, and such like stimulants, in conjunction with the general remedies.

In the arms, by the electrical stream, by baths of salt and tepid water, or volatile salts dissolved in tepid water, blisters, frictions, liniments; all to be applied above the part apparently diseased, and the frictions should be applied downwards to the extremities of the fingers; recollecting that the principal brachial nerve runs from the axilla on the inner side of the arm to the elbow joint, passing under the basilic vein; from thence there are two divisions, one tending towards the wrist and thumb, the other towards the little finger. In these directions, therefore, the applications should be particularly used; but, in order that nothing may be omitted, the whole arm in every part may be rubbed,

In the thighs and legs, the principal vessels and nerves take a direction from near the middle of the groin on the inside of the thigh obliquely towards the inner side of the knee; there, a little above the ham, they divide, and

run

run deeply under the muscles, well guarded from external wounds or injuries. In outward applications the same modes may be observed as in the arms.

If the hand or foot be only paralytic, then the frictions and remedies should be used all round, and above the wrist with *manuluvia*, as recommended to the inferior extremities.

In all cases of palsy from an *atonia*, or relaxation of the nervous tunics or cellular structure, &c., bracers, bark, steel, Hoffman's anodyne liquor, acid, or sweet elixir of vitriol, chalybeate, Bath waters, cold bath, either universal or partial, the shower bath, &c., are most likely to avail.

In palsies complicated with chronic rheumatism, or old venereal complaints, the cure has been produced by James's powder to about four or six grains, or lately by the *pulvis antimonialis* of the New London Pharmacopœia, to three or four grains, and a quarter of a grain of calomel, twice or thrice in the day, formed into a pill with any convenient conserve.

In venereal cases, a small quantity of mercurial ointment with camphor has been rubbed into the extremities every other night.

These

These methods, and avoiding acids or salted foods, &c., have succeeded in several instances amongst the poor who attended on my public mornings. In addition, however, to the modes, I have always recommended baths of warm water and common salt to either hands and arms, or legs and feet.

It must be confessed, from all the observations experience has furnished me with, that the palsy, when of long duration, is rarely cured.

In the atrophy, or wasting of the limbs, the adeps in the cells of the *tela cellulosa* is consumed; the cells are obliterated, not only in the interstices of muscles, but likewise between the fibres of muscles. The loss of the adeps is not supplied, as in other cases, by aërial or other fluids, by which the cells preserve their distention, and the arm or leg its size, but the whole member wastes, the arterial system diminishes in power, the lateral surfaces of the minute cells, as well as larger, being no longer filled, they collapse, and the original form is changed; the nervous influence is impeded, diminished, or lost, on muscles, tendons, and ligaments, which are no longer pervious to the force of aërial fluids, arterial action, or nervous influence.

This

This minute investigation of the palsy may, at some future period, throw a considerable light on the subject: it is, in general, the result of anatomical inquiries; and though it appears a melancholy description, yet it is juster than those delusive doctrines which raise great expectations, and end in painful disappointment:

THE END.

Done sub-siglatis nec non sive signis
monas, abstinentia manet quod
a monachis velatis videlicet dicta
spiritualis abstinentia monachorum dictata
nec non contra dictum abbas
videlicet quod tales ratione sive
affinitate in mortibus.

